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ABSTRACT

Intended to help professionals remain knowledgeable about current research in reading and to serve as a relatively accessible bibliographic source of research on a specific topic, this annual report summarizes approximately 800 reading research reports identified between July 1, 1985, and June 30, 1986. The summaries are arranged into six major categories. The first category lists other general bibliographies offering summaries of reading research. The second category presents summaries of studies concerned with teacher preparation and practice, while the third category contains summaries of reports dealing with the sociology of reading. Most reports appear in the fourth category, which deals with the physiology and psychology of reading. The fifth and sixth categories cover reports on the teaching of reading and the reading of atypical learners. Concluding the document are a list of approximately 400 journals monitored for the summary and an author index. (HTH)

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Summary of investigations relating to reading July 1, 1985 to June 30, 1986

SAM WEINTRAUB, HELEN K. SMITH, NANCY L. ROSER, WALTER J. MOORE, MICHAEL W. KIBBY, KATHLEEN S. JONGSMA, and EUGENE A. JONGSMA

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The Annual Summary: Useful Resource

Despite the more than sixty years of its existence, the *Annual Summary of Investigations Relating to Reading* is a resource all too frequently overlooked by graduate students, reading consultants and coordinators, and university faculty in reading. In part, the reason for not using it may be unawareness of its existence; in part, it may be lack of knowledge about how to use it; and in part, it may be a feeling that a computerized search is less time consuming and will result in similar or even the same references.

In 1972, when the *Annual Summary* was being published as an issue of the *Reading Research Quarterly*, a user survey was mailed to a random sampling of RRQ subscribers. Of those who replied (about 60%), the overwhelming majority indicated that they were familiar with the *Summary* and that they used it either frequently or occasionally. However, when a follow-up telephone survey was done with a random sampling of nonrespondents, over half stated that they were not acquainted with the *Summary*. Subscribers to *RRQ* then and now probably tend to be more interested in and sophisticated about research than are most IRA members. Yet the possibility exists that one-fifth to one-fourth of *RRQ* subscribers were not aware of the *Summary*, even though it appeared as an issue of a journal to which they subscribed. Today, when the *Summary* is not affiliated with *RRQ*, that number could be even greater.

In a more recent survey taken at the Delegates Assembly of the 1985 IRA Convention in New Orleans, 14 of 32 attendees who were not IRA comprehensive members marked that they were not familiar with the *Annual Summary*. If their numbers are at all representative of IRA members in general, a large proportion of members are unaware of the existence of the *Summary*. Should IRA members be aware of it? Is it of use to the general membership? If so, in what ways?

From a very biased and personal perspective, it seems to me that the *Annual Summary* can be, indeed ought to be, used by a number of subgroups within IRA to serve their varying needs and interests. However, probably it will be of most help to doctoral students, administrators and others concerned with interpreting and reporting research findings to the public, college/university instructors of reading courses, and researchers.

For doctoral students, the *Summary* is one of the quickest and most effective means of becoming acquainted with the vast dimensions of the field. Many, if not most, doctoral candidates enter a graduate program directly from classroom teaching. Because of their background, they may be acquainted with materials in the areas of reading instruction and teacher education, but often lack familiarity with other aspects of the field. Even skimming the *Summary* can give some indications of what reading research is being done in such related fields as psychology, child development, sociology, optometry, medicine, and fine arts. My experiences with graduate students at several universities lead me to believe that few are aware of the breadth of the field. Often the literature in sociology or even that from library science is unfamiliar. Few entering doctoral level students have read much or thought much about adult reading, about who reads, what they read, and why they read. In the Sociology section of the

Annual Summary, a user can delve into newspaper reading habits, the influence and impact of reading on people, content analyses of all sorts of material, the history of print and book publication, censorship and freedom of the press, as well as into adult literacy/illiteracy around the world. The *Summary* can provide the neophyte with some insight into the various foci of research being done with the atypical reader. In this latter category, a feeling for what medical researchers are finding out relative to reading abilities of brain-damaged individuals can be gleaned, as well as a notion of research developments in the areas of reading for the visually and hearing impaired. In other words, even a superficial skimming of the *Annual Summary* can open up an understanding of the multiple dimensions of the field, can push back the horizons of doctoral students and lead them to a realization of the many facets included under reading.

Of interest to doctoral students and others, too, might be the list of journals monitored for the *Summary*. The number is currently about 400 journals, but as new periodicals appear (e.g., *Book Research Quarterly, Journal of Research in Childhood Education*, and *Early Childhood Research Quarterly* - all 1985 and 1986 entries), the list keeps growing and changing. Many in the field may be familiar with perhaps 10 or even 20 journals, somewhat acquainted with another 30 or 40, but unaware or only vaguely aware that there are hundreds of others around. The titles often give a clue as to the major focus, but reading the *Summary* abstracts from various journals can give a better understanding of the type of research and the topics included in specific periodicals. In addition to journals, the *Summary* also includes pertinent research reports from published conference proceedings and the topics they address. Merely becoming acquainted with the various organizations which are in some way reading connected can be of assistance.

One of the most beneficial aspects of the summary for doctoral students could be in helping identify a possible dissertation topic. Certainly in perusing the *Summary*, a doctoral student could find any number of potential areas for dissertation study. Reading the abstracts might aid the budding researcher in locating areas of interest. Such reading could help the doctoral candidate obtain a feel for the thrust of current research on a given topic, note what questions are being investigated, and possibly even aid in reaching a decision as to whether or not a given area would be of interest to pursue for dissertation study. Used perceptively, the *Annual Summary* could be of help in narrowing a dissertation topic to manageable size.

Many readers probably use the *Summary* to keep abreast of the field as well as to identify research on which they would then like to read the complete version. Such purposes are both justifiable and worthwhile. The abstracts cut down the time of going to original sources when some may be of little interest or relevance.

For administrators and reading consultants/coordinators who need to call attention to and interpret research findings for teachers and the public, the *Annual Summary* provides a valuable resource tool. It's possible for such personnel to identify relevant studies and then call them to the attention of appropriate staff. For professionals in these positions, syntheses of research in given areas can be identified in the various summaries. These then aid in interpreting directions, in pulling together the literature in an area and giving it a focus, and frequently in suggesting implications for instruction.

University professors can make assignments to doctoral students to read parts of the summary. In an editorial in the Spring 1973 issue of *RRQ*, Ira Aaron, a past president of IRA, describes one approach to using the *Annual Summary* in a doctoral level course. His description emphasizes critical analysis of the accuracy of the abstracts by comparing selected ones with the original studies. Additionally, Dr. Aaron asked students to identify the most important ideas within an assigned section. Both of these assignments are excellent means for acquainting doctoral students with the *Annual Summary* as a tool and also with helping them know how to use it.

Because many of the subcategories have remained consistent over the years, it is possible to use the summaries to trace one topic over time and note historical changes in direction and emphasis. By the same token, reviewing summaries over time can give one a feeling for

historical emphases in different time periods as well as the changing directions and interests of research. For example, an overview of the abstracts appearing within the past two decades shows a sharp growth in interest in cognitive factors related to reading. Even more recently, there is a return to research directly related to classroom practices, a focus on teacher education, an emphasis on research in comprehension, and an increase in different research designs as opposed to the classical empirical study with its elaborate statistical treatment. More case study, descriptive, historical, and ethnographic studies are beginning to appear. Particularly interesting are the latter which look in depth at the socioeducational atmosphere in which reading instruction occurs. Many earlier as well as current studies attempt to isolate one factor related to reading and investigate it. Some of the more recent ethnographies attempt a broad sweep of the classroom. Their findings are frequently more revealing than when a narrow peek at one isolated skill, frequently divorced from the reading act, is investigated.

Caveats

Although useful, several warnings relative to the summary need to be reiterated. First, it is not intended to be evaluative but rather to be a repository for what exists. Thus, the user needs to go to the original source and determine its credibility.

Second, the annual summaries do not include such unpublished materials as Master's theses, doctoral dissertations, and U.S. Government reports. Only published research is abstracted for inclusion.

Third, although the *Summary* is a good starting point for locating the research on a topic, it should be viewed as one source only. Other abstracting services and other searches need to be checked out. A given study may not be found in the *Annual Summary* for one reason or another, including the fact that it simply may have been missed. An exhaustive search of the literature means checking a number of reference tools and not relying solely on any one.

Would a computer search turn up the same information as a more time consuming hand search of annual summaries? It would appear that while some of the same citations might appear in both, the overlap would not be great. A great deal of the sources cited in most computer searches would be from ERIC's *Resources in Education* and *Current Index to Journals in Education*. RIE includes unpublished materials which would not appear in the annual summaries but does not monitor most of the periodicals and other sources covered for the *Annual Summary*. Although CIJE includes a greater number of periodicals than the *Summary*, many are not common to both. CIJE covers the whole educational domain and the information presented under each citation is considerably more limited than that in the annual summaries.

Other abstracting services such as *Psychological Abstracts* and *Child Development Abstracts* do not monitor all the journals covered in the annual summaries. *CD* frequently uses an author's abstract. While this is done occasionally in the *Annual Summary*, the majority of abstracts are original and attempt to include enough information about a research report for the reader to know whether or not the original source is pertinent and worth locating. *CD* abstracts, too, often tend to be briefer than those in the *Annual Summary*. The information found in the abstracts for the annual summaries is similar in nature to that appearing in *Psychological Abstracts*. Frequently, more specific findings of a study are reported in the *Annual Summary* than in *PA*. Again, all the journals cited in the summaries are not covered in *PA*. Another widely used reference tool, *Education Index*, merely lists citation information. The user of *Education Index* would have to go to the original to determine whether or not it was relevant.

In addition to the above information, it's important to consider that a computer search might not turn up older but relevant studies. There seems to be a tendency to ignore such information. However, the findings obtained and procedures followed in early studies can

often be both pertinent and insightful. With the data base of thousands of studies cited in the annual summaries, there seems little excuse for ignoring or not utilizing older research reports.

Scholarship is not an easy task. As with most things that are worthwhile, it demands hard work. For the true scholar of reading, the *Annual Summary* can be a useful and even an invaluable tool to be looked over rather than overlooked.

Sam Weintraub

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AARON, I.E. The Annual Summary: A case study. *Reading Research Quarterly, 8*, Spring 1973, 243-245.

FARR, ROGER, and WEINTRAUB, SAM. The Annual Summary: A user survey. *Reading Research Quarterly, 7*, Winter 1972, 207-211.

A microfiche edition of this *Annual Summary of Investigations Relating to Reading* is available. Annotated citations are provided in author and subject sequences on eye-readable, 4 x 6 cards; the full-text documents are reproduced on 4 x 6 high-quality microfiche which utilizes an exclusive image indexer. Printed author and subject indexes are included, and a demonstration workshop is available to train staff and students in the use of the collection. For further information about the microfiche edition of this *Annual Summary* or any previous *Summary*, contact the Alvina Treut Burrows Institute, P.O. Box 49, Manhasset, N.Y. 11030 (516) 869-8457.

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The International Reading Association attempts, through its publications, to provide a forum for a wide spectrum of opinions on reading. This policy permits divergent viewpoints without assuming the endorsement of the Association.

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*Summary of investigations relating to reading July 1, 1985 to June 30, 1986**

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SUMMARIZES approximately 800 reports of reading research identified between July 1, 1985, and June 30, 1986. The research studies are categorized into six major areas, five of which have been further subcategorized. As in previous years, the majority of studies reported were classified into the Physiology and Psychology of Reading area. Large subdivisions under that major category include Comprehension Research and Factors Related to Reading Disability. The largest subcategories in the Sociology of Reading are concerned with the content analysis of printed materials and the use of mass media. Under the Teaching of Reading category, the subcategory Testing remains the largest. A listing of other general bibliographies of reading research appears as the first major category of the present summary.

*Dr. Peter Fisher, State University of New York at Plattsburgh, is responsible for the major work of identifying articles. Additional identification was done by Ellen Friedland, a doctoral student at SUNY/Buffalo. Three other people helped the summary to function properly this past year. Margaret Collins is the efficient secretary who keeps track of all the summary materials and is responsible for seeing that everything functions smoothly. Katerina Soto and John Benson were the dependable work study students who photocopied, filed, and entered authors' names into the computer for alphabetizing. To all of those people, I am deeply indebted. Primary financial support of the annual summary is provided by the International Reading Association. Additional funding is supplied by the Alvina Treut Burrows Institute, Inc.

I. Summaries of reading research

DURST, RUSSEL K., & MARSHALL, JAMES D. Annotated bibliography of research in the teaching of English. *Research in the Teaching of English*, December 1985, *19*, 405-424.

Cites and annotates research in the teaching of English appearing in 1984-1985 under four main headings: Writing, Language, Literature, and Teacher Education. The Writing and Language categories are further subcategorized. Research relating to reading appears under each of the categories.

GOODACRE, ELIZABETH. Reading Research in Great Britain – 1984. *Reading*, April 1986, *20*, 16-29.

Identifies and annotates some 75 reading research reports appearing in Great Britain in 1984. Major categories included are Reading Development, Reading Standards and Tests, Dyslexia and Specific Reading Retardation, and Reading Materials and Interests.

MACLEAN, MARGARET. Reading in a second/foreign language: A bibliography 1974-1984. *Canadian Modern Language Review*, October 1985, *42*, 56-66.

Lists articles and books published between 1974-1984, all of which deal with issues related to reading in a second/foreign language. Nonpublished materials such as dissertations are not included.

MARSHALL, JAMES D., & DURST, RUSSEL K. Annotated bibliography of research in the teaching of English. *Research in the Teaching of English*, May 1986, *20*, 198-215.

Annotates published and unpublished research in the teaching of English under four major categories: Writing, Language, Literature, and Teacher Education. The first two categories are further subdivided. A number of reading and reading related studies are included.

WEINTRAUB, SAM; SMITH, HELEN K.; ROSER, NANCY L.; MOORE, WALTER J.; KIBBY, MICHAEL W.; JONGSMA, KATHLEEN S.; & FISHER, PETER J.L. *Summary of investigations relating to reading, July 1, 1984 to June 30, 1985*. Newark, Delaware: International Reading Association, 1986.

Identifies and abstracts approximately 1,000 published research reports in reading. The literature is categorized under six major headings. Subcategories appear under the five major categories of Teacher preparation and practice, Sociology of reading, Physiology and psychology of reading, Teaching of reading, and Reading of atypical learners.

II. Teacher preparation and practice

II-1 Behavior, performance, knowledge, practices, effectiveness

DURKIN, DOLORES. Is there a match between what elementary teachers do and what basal manuals recommend? *The Reading Teacher*, April 1984, *37*, 734-744.

Reports findings of an observation study to determine what teachers use, skip, or alter from among suggestions found in basal reader manuals. The teachers, who were observed twice, included five at first-grade, six at third-grade, and five at fifth-grade levels. Following each observation, teachers were interviewed relative to their reasons for using, skipping, or altering a manual suggestion. While all manuals recommended introducing new

vocabulary in context, only three teachers did so. The others stated that writing context sentences was too time consuming. None of the teachers reviewed or developed background information about the material to be read. Prereading questions were rarely posed. The most dependent use of manuals occurred in connection with the asking of assessment comprehension questions. All except one teacher used the sections of the manual related to skill development; all the workbook pages and worksheets suggested in the manual were assigned by 15 of the teachers. Two common explanations given for bypassing manual recommendations were time constraints and the lack of importance of the suggestions.

DOWNING, JOHN; TIMKO, HENRY; CAUST, TESS; GOODACRE, ELIZABETH; & JOHNS, JERRY L. Teacher's concepts of "silent letter" in four countries. *International Research in Reading*, Winter 1985, *2*(1), 21-28.

Explores teachers' conceptions of the term "silent letter" and compares these with an operational definition that regards a "silent letter as one that when added to a graphic syllable makes no difference in its pronunciation." Questionnaires were presented to and completed by 150 teachers in Australia, 103 in England, 146 in Canada, and 79 in the United States. It was found that the Australian and English teachers' conceptions of "silent letter" were much closer to the operational definition of this concept than the ideas of the American and Canadian teachers.

COOKSEY, RAY W.; FREEBODY, PETER; & DAVIDSON, GRAHAM R. Teachers' predictions of children's early reading achievement: An application of social judgment theory. *American Educational Research Journal*, Spring 1986, *23*, 41-64.

Examines the expectations of 20 teachers-in-training from an Australian teachers' college relative to the potential reading achievement of 118 kindergarten children. Expectations were evaluated within a specific framework, Social Judgment Theory. The preservice students were presented with an information profile on each child and then asked to estimate how the child would perform on end-of-the-year tests of word knowledge and reading comprehension. Included in the profiles were data on socioeconomic status, score on a test of letter knowledge, score on the *Concept About Print* test, score on a test of oral language comprehension ability, and the type of instructional reading program (skills or meaning emphasis) in which the child was to be taught reading. All preservice students are reported as performing well on the task. In general, students were somewhat better at predicting reading comprehension than word knowledge. Cluster analysis of the expectation policies of student teachers revealed several different types of policy weighting schemes.

RUSSAVAGE, PATRICIA M.; LORTON, LARRY L.; & MILLHAM, RHODESSA L. Making responsible instructional decisions about reading: What teachers think and do about basals. *The Reading Teacher*, December 1985, *39*, 314-317.

Presents the results of a survey of 25 first- through fifth-grade teachers from three elementary schools regarding their use of basal readers. Teachers responded to a questionnaire by describing ways in which they departed from the teacher's manual that accompanies the text. Questionnaire responses were then compared with formal and informal classroom observations of reading lessons by two independent observers. The strengths of basals were considered to be the logical sequence of skills, easily identifiable storylines, inclusion of a variety of children's literature, progressive difficulty of materials, controlled vocabulary, convenience of multiple copies at a particular reading level, and variety in comprehension/word analysis teaching techniques. Weaknesses identified in basals included story content that is irrelevant to readers' background experiences, lack of opportunity to apply skills, controls on vocabulary, lack of stories on current topics, and failure to meet individual skill needs. The researchers indicated that vocabulary control was listed as both a strength and as a weakness because its value may be dependent upon reader age, ability and motivation. Teachers re-

ported that they modified basal lessons by systematically monitoring student needs and keeping records, devising more innovative ways to present material, adjusting skills lessons to individual needs, following pupils' ideas in discussions, helping children set purposes for reading, providing enrichment and variety, and incorporating other content area materials to provide for integration of skills.

ALVERMANN, DONNA E.; DILLON, DEBORAH R.; O'BRIEN, DAVID G.; & SMITH, LYNN C. The role of the textbook in discussion. *Journal of Reading*, October 1985, *29*, 50-57.

Examines the ways teachers use textbooks to make assignments for discussion in seventh and eighth grade classrooms. Eight discussions were observed and analyzed, two in each of four content areas. Researchers classified videotapes and field notes along three dimensions: use of textbooks; content areas (language arts, social studies, science, health/human development); and teacher polarity on a continuum of lecture-discussion behaviors. Properties of text use included: verification of a point in the lecture-discussion; indirect reference to a previously read portion; refocus discussion by turning to the text; student paraphrase of text to answer question; and directions to keep the text closed during lecture-discussion. Excerpts from the videotapes highlight different types of text use. Teachers used the text in a variety of ways. Generally usage was related to a teacher's stated or implied beliefs about how a discussion should be conducted. A checklist for determining the role of text in class discussion and suggestions for using the information gathered from the checklist are included.

HALLER, EMIL J. Pupil race and elementary school ability grouping: Are teachers biased against black children? *American Educational Research Journal*, Winter 1985, *22*, 465-483.

Investigates the grouping decisions of elementary teachers with special emphasis on whether race influences such decisions. Involved were 934 children from 49 classrooms and their teachers in grades 4, 5, and 6. Schools were from economically depressed industrial cities in the Northeast, Appalachian rural and small towns, an industrial area of the Deep South, and an affluent, racially integrated suburb in an East-Central state. The reading section of the *Comprehensive Test of Basic Skills* was administered to all. All teachers were individually interviewed in 90-minute sessions; they were asked to construct reading groups for next year's teacher and to tell why each child was being placed in a particular group. Information on race, sex, and socioeconomic (SES) concerns was also collected. Teachers completed an instrument on which they rated their pupils, relative to their classmates, on six factors: general academic competence, reading ability, work habits, classroom behavior, creativity, and home background. A classification scheme was coded for the statements made by the teachers about their pupils. Seven types of teacher comments (over 7,000) emerged: reading ability, overall academic competence, the nature of the evidence considered (teacher observation, test results, work habits), classroom behavior and personality traits, home conditions, various physical attributes. Analyses were made of the teachers' comments as they were engaged in the process of grouping children, and of the racial composition of the groups they were forming. Taken together, these analyses failed to uncover evidence of conscious or unconscious racial bias, though black pupils were found to be much more likely to be placed in the lowest groups. Measured reading competence accounted for much more of the variance in teachers' perceptions then either race or SES.

GATEWOOD, JANE GOODING. The young adult novel: A survey of teacher attitudes and practices. *Georgia Journal of Reading*, Fall 1984, *10*(1), 7-12.

Reports questionnaire results of a survey of English teachers in grades 7 through 12 revealing their familiarity with and how they felt about 25 young adult titles, and also whether or not they used these novels in their classrooms. Of the 220 questionnaires mailed to teach-

ers in 15 southwest Georgia counties, 117 usable responses were returned. Lists of books most often required, recommended, and identified as student favorites were compiled. Only three of the 25 had been read by at least half of the teachers. Teachers were generally positive toward young adult novels with 90% agreeing that these books could serve as transitional literature. A positive response of 81% was obtained to the statement: "The best way to develop good taste in literature is to require students to read great literature in school." Only 14% of the 135 titles mentioned by at least five teachers could be classified as young adult novels.

BOHNING, GERRY, & CARNEAL, ANN S. Reading aloud to secondary students. *Journal of Reading Education*, October 1985, *11*(1), 15-19.

Conducts a survey to ascertain if secondary teachers regularly read aloud to students and, if so, what constituted their reasons for such practices. Questionnaires were returned by 260 teachers representing all areas of the curriculum: 23% were middle or junior high personnel and 77% were high school teachers. All reported information about three aspects of their read-aloud practices: frequency, length of session, and grouping. Secondary teachers tended to read aloud frequently, for short periods of time, and to entire classes. The survey concluded that: 1) reading aloud is an important teaching-learning technique in the secondary classroom; 2) teachers who read aloud do so because of the positive effects which they believe that this practice has on students' learning and motivation; and 3) a rationale for reading aloud to secondary students focuses on supplementing academic learning experiences, enjoyment, and pleasure for both the teacher and the students, provides a role model, motivates and arouses interest, expands an appreciation of language and literature, expands language and listening growth, and meets special learning needs.

STAHLSCHMIDT, AGNES D. Tried and true: Teachers' recommendations for reading aloud. *Ohio Reading Teacher*, April 1985, *19*(3), 21-28.

Reports results of a questionnaire designed to gain insights into the read-aloud habits of 113 kindergarten through sixth-grade teachers in 10 midwestern elementary schools. The responses reflected a return of 81%, and a total sample of 100 females and 13 male teachers approximately evenly distributed across grade levels. The majority (60%) had been teaching more than 10 years. Of the respondents, 96% indicated that they read aloud to their classes. Of these, 96% reported that they read aloud daily or two to three times each week. All teachers reported using the school library as a source for titles they read aloud. The second most important source was the teachers' personal collections (82%), followed by pupils' collections (56%), and the public library (43%). Teachers reported they relied primarily on their own judgments for good read-aloud titles (97%), followed by the recommendations of librarians (73%), pupils (72%), other teachers (61%) and periodical and booklists (42%). Titles were selected because of high-interest (94%), theme (59%), relation to curriculum (58%), author/illustrator (47%), and for illustrations (36%). Read aloud titles recommended by teachers were checked against two recently published handbooks of suggested titles for reading aloud to children. Seventy of the 153 recommended titles were suggested in one of the two handbooks.

LARKING, LEWIS & HUNTER, ROBYN. Teachers made a difference: Surface and deep level processing by children and their teachers. *Australian Journal of Reading*, August 1985, *8*, 152-157.

Examines the relation between classroom teachers' understanding of learning and the level at which their pupils comprehend reading materials. Learning was defined as either surface level or deep level, with surface level learning emphasizing reproduction of knowledge and information, and deep level learning as knowledge interpreted and given meaning. Thirty-nine middle- and upper-grade teachers in three Queensland primary schools were

asked to write a definition of learning. Their pupils (1027 children) were asked to write two or three sentences which expressed the meaning of an appropriately difficult reading passage. Both the pupils' responses and the teachers' definitions were classified as either surface or deep level. The great majority of teachers and children were classified as surface level in either their understanding of learning or in their comprehension of reading material. Results of chi square indicated that there was a significant connection between the teachers' levels of understanding and learning and the proportion of children in their classes who processed the reading passage at either a deep or surface level. Teachers who understood learning as deep level processing had almost twice the proportion of children in their classes who were deep level processors as did surface level teachers. However, because teachers were not randomly distributed across the grades or among the schools, the researchers were not able to confirm whether processing ability was developmental and correlated with the amount and type of schooling, or with family background.

KAISER, ROBERT A. How Tennessee elementary school principals describe their reading programs. *Tennessee Reading Teacher,* Summer 1985, *12*, 25-32.

Conducts a state-wide survey of elementary principals' perceptions of reading instruction and important elements of their programs. Statements focused around: 1) Program, Methods and Approaches; 2) People, Training and Professionalism; 3) Resources: Financial and Community; and 4) Miscellaneous. Of the 100 instruments mailed, 42 usable forms were returned. Results showed grouping, materials, and records were regarded as important elements of reading instruction by the principals. They avoided talking about money and parent participation and had not decided what to say about cultural considerations and placement of children into materials at the appropriate instructional levels. What did emerge was a concern for time spent in reading instruction, specifically for school-wide programs like Uninterrupted Sustained Silent Reading (USSR). These were unacceptable to many principals and there was a tendency to adhere to the reading-group patterns suggested by most basal reading programs.

GERMAN, DIANE; JOHNSON, BARBARA; & SCHNEIDER, MARY. Learning disability vs. reading disability: A survey of practitioners' diagnostic populations and test instruments. *Learning Disability Quarterly,* Spring 1985, *8*, 141-157.

Investigates the diagnostic practices among three professional groups when assessing reading disorders. The Learning Disability/Reading Disability Questionnaire was administered to 74 self-contained learning disabilities specialists, 141 resource learning disabilities specialists, and 118 reading resource specialists. The groups were compared on such issues as the nature of the diagnostic populations served, diagnostic tests employed, informational sources used, and diagnostic factors considered in typical assessment of reading disorders. Although the groups differed with respect to each of these issues, similarities did emerge: All groups identified language deficits as a characteristic of their diagnostic population, both types of professionals used tests of reading potential and reading skills, and all three groups considered causality, strengths and weaknesses, and language deficits to be important in the diagnosis of reading disorders.

SECONDARY COMMITTEE OF WISCONSIN STATE READING ASSOCIATION. Report: Wisconsin secondary reading programs. *Wisconsin State Reading Association Journal,* Summer 1985, *29*(4), 30-36.

Includes responses of over 200 reading teachers, specialists, and consultants to a questionnaire survey of secondary reading programs in Wisconsin. Included in the findings were: 1) 90% of respondents reported they had a K-12 Reading Specialist/Coordinator; 2) 89% of the specialists held Wisconsin certification; 3) 60% of replies indicated that the K-12 Reading Coordinator had duties at the secondary school; and 4) 47% of school districts replying offered developmental reading courses at the secondary level.

II-2 Beliefs/attitudes toward reading

SHANNON, PATRICK. Teachers' and administrators' thoughts on changes in reading instruction within a merit pay program based on test scores. *Reading Research Quarterly*, Winter 1986, *21*, 20-35.

Utilizes questionnaires, interviews, observations, and school district publications in an effort to detail teachers' and administrators' feelings about reading and reading instruction within the context of a reading program which used merit pay to increase children's reading test scores. Subjects were 34 teachers, five principals, and one central administrator. Interviewed were 24 teachers, while 10 teachers, two each from grades 1 through 5, were observed. Additionally, subjects completed a biographical survey and a 16-item Likert-scale-questionnaire. Most teachers and all administrators defined reading following the school system's prescribed definition of reading and reading instruction. A number of teachers considered teaching reading less fulfilling under the merit pay program than it had been before. Respondents concurred that central administrators designed the program, that more uniform instruction was required, and that increased test scores were the program's gaol. Sixty-three percent of teachers indicated that reading instruction was less enjoyable with the merit pay program; 29% felt that the program made them work harder on their reading instruction.

RUPLEY, WILLIAM H., & LOGAN, JOHN W. Elementary teachers' beliefs about reading and knowledge of reading content: Relationships to decision about reading outcomes. *Reading Psychology*, 1985, *6*(3-4), 145-156.

Examines the relation between teachers' knowledge of basic reading content, their beliefs about reading, and decisions about the importance of specified reading outcomes. One hundred elementary teachers (primary = 60; intermediate = 40), with teaching experience ranging from one to 26 years, volunteered to participate. All participants were administered *Rude's Knowledge Test of Reading for Elementary Teachers*, a 52-item measure of content found in popular reading methods texts, Propositions About Reading Instruction Inventory, a 45-item instrument that assesses the nature of teachers' conceptions about reading, as well as a set of seven reading learning outcomes to be ranked from most to least important, all drawn from the primary and intermediate levels of the *Stanford Diagnostic Reading Test*. Significant correlation coefficients were found for 1) knowledge of reading and reading behavior outcomes focusing on discrimination of sounds represented by consonants and consonant clusters, and 2) student-centered reading beliefs and reading behavior outcomes associated with making conclusions and drawing inferences about stories read. Significant negative correlations were noted for 1) knowledge of reading and outcomes dealing with comprehension of explicitly stated meaning and details in reading passages, and 2) student-centered reading beliefs and all reading outcomes focusing on basic decoding skills and literal comprehension of story information. The best predictor of teachers' identification of important reading behavior outcomes was knowledge of reading content. Reading behavior outcomes differed significantly between primary and intermediate level teachers for recognition of sounds represented by vowels; intermediate teachers gave these higher rankings than did primary teachers. The results indicated that beliefs about reading influence elementary teacher's decisions about the importance of reading outcomes typically taught in the elementary grades. Teachers who hold student-centered reading beliefs as defined by this study are not likely to value instruction that focuses on decoding.

JOHNSON, BARBARA; SCHNEIDER, MARY; & GERMAN, DIANE. The debate over learning disability vs. reading disability: A survey of practitioners' populations and remedial methods. *Learning Disability Quarterly*, Summer 1983, *6*, 258-264.

Attempts to clarify whether Learning Disability (LD) and reading specialists differ in practice by surveying LD and reading practitioners about the remedial procedures they use, their instructional time allocations, and the characteristics of their remedial populations. Of

the 333 professionals whose responses to the survey were usable, 74 were LD teachers in self-contained classrooms, 141 were LD resource teachers, and 118 were reading resource teachers. All participants responded to the *Learning Disability/Reading Disability Questionnaire*, an instrument developed to reflect the perceived differences between the fields of LD and reading, specifically directed toward the issue of process versus skill instruction. The results demonstrated that both learning disabilities and reading professionals remediated language-disorder populations and displayed a similar profile regarding use of instructional time. Neither profession fit discretely a skills-only or process-only category. The LD and reading field appeared to separate only on the issue of specific remedial methodologies, with a small group of LD professionals employing significantly more specific remedial methods than did reading professionals. The practitioners for the most part were in agreement on their infrequent use of process methods. LD teachers taught analytic phonics, cloze, language experience, use of context, and instruction of sight words. In addition to these, reading professionals used Directed Reading Thinking Activity, repeated readings, and Uninterrupted Sustained Silent Reading. All teachers spent a majority of instructional time teaching comprehension. LD teachers spent more instructional time on written language. A paucity of study skills methods and materials was found in both groups.

MORRIS, JOYCE M. Before a byte, the L.I.T.E approach to literacy. In Jim Ewing (Ed.), *Reading and the New Technologies*. London: Heinemann Educational Books, 1985, 49-55.

Investigates the linguistic knowledge of undergraduates taking education courses at a British teacher-training establishment. Subjects (n = 275) responded to a quiz testing knowledge of the phonological and visible systems in English. Results are reported for selected questions. In general, students performed poorly on the test. It is argued that literary development in schools would be helped by the inclusion of linguistics in teacher education (LITE).

COMBS, MARTHA. Beginning teachers as decisionmakers. *Journal of Reading Education*, Spring 1986, *11*(3), 31-38.

Samples 16 first-year teachers, representing grade levels one through six, who agreed to participate in a series of 35-minute telephone interviews concerning the manner in which he/she made decisions regarding reading instruction. In addition, seven of the teachers were visited and observed for an average of 10 hours. Many interviewees had difficulty in identifying factors which influenced their decisions. While flexibility of groups was identified as an important consideration, only one-fourth of the group routinely adjusted groups. Basal readers appeared to dictate the scope and sequence of the reading programs. Undergraduate work had little impact upon deciding what to teach. Teachers did not appear to have a sense of overall scope and sequence for their level. In general, when planning a reading lesson, only one activity was considered, usually the completion of a workbook page. Alternatives tended not to be given consideration.

II-3 Preservice/inservice preparation

FLIPPO, RONA F., & HAYES, DAVID A. Graduate preparation and licensure examination for reading specialists. *Journal of Reading Education*, Winter 1985-86, *11*(2), 18-28.

Discloses how the *Georgia Reading Specialist Test* developed and its relation to content emphasized in graduate level reading courses offered by the state's colleges and universities. From a body of 141 measurable objectives, ultimately collapsed to 56, items were constructed that covered six broad subareas: Language Development and Reading Readiness,

Reading Skills; Developmental Reading Instruction; Assessment; Reading Disabilities; and Program Management. A questionnaire was then sent to 55 faculty members in reading education in Georgia colleges and universities to determine the extent to which each instructional area was addressed in graduate classes. The questionnaire used a Likert scale format, and 33 usable forms were returned. At all institutions, developmental reading instruction received major emphasis. Half or less of the responses reported that they placed little emphasis on specific linguistic, medical, and maturational influences on language development; the graduate students' own reading and study skills abilities; concepts of test validity/reliability; and knowledge of relevant professional affiliations and publications.

BOEHNLEIN, MARY MAHER. Can all teachers *really* teach reading? *Ohio Reading Teacher*, July 1984, *18*(4), 17-21.

Reports results of a total school effort to improve reading and communications skills of pupils and to improve teaching skills of junior high school content teachers in reading. The original plan to carry out the program was approved by the 35 teachers. Based on pretest scores from the *California Test of Basic Skills* (CTBS) and teacher recommendations, the 850 seventh and eighth graders were assigned to groups of 25. Teachers were given an instructional focus for each group (creative writing, sustained silent reading, use of the newspaper, or exploration of the classics); in the first year of the program, pupils rotated among four different teachers every four weeks. Teachers were given inservice work during nine four-hour sessions throughout the first year of the project; in the second year, a sequence of four university courses was offered for credit on site. Children's scores on the CTBS showed an average mean gain in reading of 1.3 at the end of the first year and 1.4 at the end of year two. Previous average gain had been .7 years. There was a gain from 70% to 97% in teachers who felt that vocabulary and reading skills could be taught through their own content areas.

CHRISTIANSEN, MARK A. How prospective secondary teachers feel about taking a required course in teaching reading: A survey report. *Journal of Reading*, February 1986, *29*, 428-429.

Questions 248 prospective secondary teachers in Tennessee relative to their reactions to the need for a required course in the teaching of reading. Of the various disciplines involved, the prospective teachers of English (two courses required), foreign languages, mathematics, and science, were most supportive of the requirement; those in social studies were somewhat less enthusiastic about the regulation. Following completion of the course work, a majority of these candidates felt "well" or "very well" prepared to incorporate various emphases pertaining to reading instruction into their content areas. Seven areas of reading instruction were rated of "great importance" or of "considerable importance": 1) drawing conclusions and making inferences (95%); 2) recognizing new words from context (90%); 3) adjusting speed to difficulty of material and purpose for reading (88%); 4) finding the main idea (88%); 5) understanding symbols and implied meanings (87%); 6) taking notes (87%); and 7) following directions (84%).

CHAMBLESS, MARTHA S., & SMITH, WILLIAM E. The development and evaluation of an in-service program for teaching assistants in reading. *Reading Improvement*, Fall 1985, *22*, 239-244.

Describes the development and design of an inservice program for teaching assistants in Mississippi. As a mandate of the Education Reform Act of 1982, teaching assistants (TA) were to be installed in the first three grades by 1986. A series of staff development sessions were planned that included lecture, role modeling, discussion, and hands-on activities. At the conclusion of the program and after the participants had worked in classrooms, they were asked to complete a questionnaire evaluating the effectiveness and value of the training using a five-point scale. Highest ratings were in the area of organization of the sessions where 71%

of the participants rated the sessions as very good and 29% rated them as quite good. Sessions rated as highly usable were those dealing with leading discussions, asking comprehension questions, using reading aloud techniques and teaching penmanship. In almost all cases, participants rated their understanding of the sessions higher than their usability. In two areas (classroom management and read aloud techniques) usability was rated higher than the assistants' understanding, but the differences between the ratings were small enough to be deemed inconsequential. On a teaching questionnaire, 77% of the classroom teachers working with the TAs reported that they felt student achievement had improved as a result of the inservice training program.

WENDELIN, KARLA HAWKINS, & MURPHY, CAROLYN COLVIN. Preservice teachers' perceptions of their reading methods preparation. *Reading Improvement*, Spring 1986, *23*, 21-26.

Investigates the perceptions of preservice teachers (n = 125) regarding their reading methods preparation. Questionnaires were administered immediately prior to the student teacher assignments and in the final week of the experience. Subjects revealed their feelings about methods preparation, including their own philosophy of reading instruction, issues/problems they expected to encounter in teaching reading, and anticipated their own preferred approaches. At the pre-student teaching stage, findings indicated that a majority (83%) of the respondents felt that their methods courses had prepared them to teach reading. At the post-student teaching stage, subjects were asked about areas of disparity between actual practices in classrooms and the content they had been exposed to in courses; 55% reported some differences between the two philosophies but felt they were similar while 38% felt they were very similar. A majority (79%) at the end of their student teaching still felt that their preparation had been adequate.

HARVEY, DELORES S. Comparison of attitudes and cognitive concepts of education majors about language variation. *Reading Improvement*, Winter 1985, *22*, 278-281.

Tests the hypothesis that sustained silent reading (SSR) about language variation from educational journals will increase preservice teachers' knowledge about language variation and will result in a positive attitude toward language and toward teaching reading comprehension to children displaying dialectical differences. Sixty elementary education majors enrolled in an initial reading methods class were randomly assigned to two comparison groups of 30 each. The subjects engaged in SSR during the first 15 minutes of each class period for five class periods. The experimental group read journal articles about language variation, while the control group read about reading comprehension. At the end of the five sessions each group was given a 20-item multiple-choice knowledge test and an attitude survey about language variation. Results indicated that the experimental group was significantly different at the .05 level, demonstrating both an increase in knowledge and more positive attitudes toward language variation.

TAYLOR, NANCY E.; BLUM, IRENE H.; & LOGSDON, DAVID M. The development of written language awareness: Environmental aspects and program characteristics. *Reading Research Quarterly*, Spring 1986, *21*, 132-149.

Reports results of teacher training/curriculum intervention program at the prereading stage. Involved were 13 prekindergarten and kindergarten teachers in public and parochial schools in a metropolitan area. Additional data came from pre- and posttest scores on the *Metropolitan Readiness Tests* (MRT) fro 165 children from four classrooms in which the program was implemented and two programs in which it was not implemented. The *Written Language Awareness Test* (WLA), a battery of four subtests assessing children's linguistic awareness and concepts about print, was also administered. Teachers were given a two-week workshop prior to the opening of school, monthly inservice meetings through the school year,

and two consultant visits per month. Teachers received a stipend and graduate credit for participating. Inservice work focused on providing a language-and-print-rich environment for children. Raters felt that six of the teachers implemented the program effectively, while only three were rated as nonimplementers. Children in implementing classrooms outperformed children in nonimplementing classrooms on the total score of the WLA; group differences on the total MRT battery approached significance.

II-4 Roles

RUPLEY, WILLIAM H.; MASON, GEORGE; & LOGAN, JOHN W. Past, present, and future job responsibilities of public school reading specialists. *Reading World*, March 1985, *24*(3), 48-60.

Surveys public school administrators, reading teachers, and professors of reading as to past, present, and anticipated future roles of reading resource teachers. Five reading specialists and five administrators were randomly selected from the public school directories of Louisiana, Missouri, and Tennessee. Five professors of reading were randomly selected from an annual directory. A 20-item questionnaire containing 20 job functions of specialists, adapted from the *Task Analysis of Reading Personnel Inventory* was administered to determine subjects' agreement with specified tasks, as well as whether the job functions were performed in the past, presently performed, or to be performed in the future. For the 37 returned questionnaires (82%), mean scores were calculated for time frame and for role for each question. These mean scores were then grouped by subcategories (diagnosis, instruction, and inservice) and plotted for each of the three groups. Qualitative analysis of results indicated some general areas of agreement and disagreement among the three groups. While job responsibilities related to diagnosis were similar among all groups and for all time frames, professors of reading reported that more emphasis is presently given to assigning pupils to reading classes and administering vision and hearing tests, while less emphasis is given to helping teachers in classrooms. Professors of reading also identified two inservice functions that specialists and administrators reported seldom performed: presenting demonstration lessons and conducting methods and materials programs. Administrators perceived that specialists seldom teach a regularly scheduled class for remedial pupils, while the specialists themselves reported frequently performing that function; professors' responses concurred with the specialists. All groups agreed on the items dealing with the instructional use of microcomputers, indicating that they were seldom used.

DRUCKER, HOWARD, & JONES, JACK. The remedial reading instructor and the teacher of the learning disabled—are they on a collision course? *Journal of Reading Education*, Spring 1986, *11*(3), 39-50.

Conducts a letter survey of all state departments of education to find out how many reading specialist and learning disabled (LD) credentials had been issued in the previous 10 years and if LD teachers are required to take reading courses. Representative findings reported show a drop in reading teacher certification and an increase in LD/Special Education certification. For example, in 1980-81 in Florida, 628 Special Education certificates were granted and only 65 Remedial Reading certificates; in Virginia, since 1974, 7,700 Special Education teachers have been certified and 140 Remedial Reading teachers.

PIERSON-HUBNEY, DOROTHY, & ARCHAMBAULT, FRANCIS X. Role stress and perceived intensity of burnout among reading specialists. *Reading World*, May 1985, *24*(4), 41-52.

Investigates the relation between role stress and perceived intensity of burnout for 324 public school reading specialists as well as differences in role stress and burnout for reading

specialists and four other teacher groups: classroom teachers, guidance counselors, school psychologists, and school social workers. Respondents were mailed a questionnaire; return rate for groups ranged from 31% to 42.5%. Both measures of role stress, Role Conflict and Role Ambiguity, were found to be statistically significant predictors of burnout for reading specialists. Concerning the three measures of burnout, reading specialists reported the lowest comparable level of burnout for the Emotional Exhaustion subscale, middle range level on the Depersonalization subscale, and the highest level of burnout on the Personal Accomplishment subscale. Reading specialists also reported the lowest comparative level of Role Conflict and a middle range of Role Ambiguity.

SMITH, LYNN C., & ALVERMANN, DONNA E. Field-experience reading interns profile the effective/ineffective university supervisor. *Reading World*, March 1985, *24*(3), 1-9.

Explores the role of the university supervisor in early field-based reading education programs by examining reading interns' perceptions of the distinguishing characteristics of effective and ineffective supervision. Subjects were 83 Early Childhood Education majors drawn from students enrolled in several sections of two field-based reading methods courses at a southeastern university. Students responded to two questionnaires composed of open-ended questions related to the strengths/weakness of the observation/evaluation process and the supervisor in the field experiences. Responses yielded three categories of comment and concern: 1) the attitude of the supervisor; 2) the supervisor's handling of the observation process; and 3) the manner of the supervisor's feedback. In general, a positive, supportive attitude rather than a judgmental stance served to build interns' confidence toward the classroom experience. Supervisors perceived as effective gave interns the impression of being available to answer questions, provided students with clear expectations, and gave honest appraisals of the interns' teaching. Of paramount importance to the interns was a supervisor's noninterruptive role. With respect to feedback, interns valued most highly suggestions made by the supervisor concerning the observed teaching.

II-5 Evaluation of programs and materials

DURKIN, DOLORES. Reading methodology textbooks: Are they helping teachers teach comprehension? *The Reading Teacher*, January 1986, *39*, 410-417.

Describes the results of an analysis of eight recent elementary methods textbooks to determine the amount of specific guidance they provide for teaching comprehension. Criteria for textbooks selected for examination were those that were both most frequently used and had copyright dates of 1983 or later, so that authors had opportunity to know and disseminate current comprehension research. All the pages in the eight texts were read independently by the researcher and a research assistant. Segments that provided specific suggestions for comprehension instruction were tallied. Total pages in the eight texts ranged from 167 to 590. Specific suggestions for comprehension instruction ranged from none to 10. Suggestions in the examined texts were often sketchy and lacking in detail. In addition, assessment procedures were frequently erroneously referred to as instructional procedures. The researcher notes that current texts aimed toward undergraduate reading methods offer students theories and research on comprehension, often written in technical and complex terms, with greater attention given the readers' knowledge of the world than determining relationships of ideas in print.

SIMPSON, MICHELE L.; RATEKIN, NED; & ALVERMANN, DONNA. Recommended strategies versus the content area teacher: A comparison of curricular goals. *Journal of Reading Education*, Spring 1986, *11*(3), 20-30.

Endeavors to determine if the curricular goals of teachers conflicted with or were in harmony with those of content reading textbook authors. Two mathematics, science, social studies, and language arts teachers, one from 8th grade and one from 11th grade, were involved. An analysis of 10 content reading texts was conducted and identified five categories of recommended teaching strategies/practices. These categories were then utilized in an instrument employing a framework which required the teachers to rank, according to their own preferences, statements reflecting five ideologies (academic, utilitarian, romantic, emancipatory, and cognitive-developmental). A second probing was conducted through an open-ended personal interview. Both teachers and texts indicated a leaning toward a cognitive-developmental or utilitarian/cognitive-developmental perception of the curriculum.

CONDON, MARK W.F., & KYLE, DIANE. Competency tests for reading teachers: Sixty years of progress? *Action in Teacher Education*, Spring-Summer 1985, *7*(1-2), 13-20.

Compares the reading portion of the National Teacher Examination (NTE) with that of a state-created, subjectively scored essay test which was administered to prospective teaching candidates in Kentucky in 1923. In 1923, a five-item open-ended interview instrument was used. The first of these items dwelt on readiness and beginning reading instructional techniques, materials, grouping, and the like; a second item related to word analysis and the kinds of instruction supporting that realm; the third was devoted to oral reading; item four centered on content area reading; the fifth required a candidate to read orally for the examiners. Thus, there were four essay responses and one performance opportunity. The 1983 NTE focused on breadth as much as the Kentucky 1923 exam did on depth, as it had four distinct two-hour tests to assess knowledge of reading instruction. It did so by using 20% of the items in the elementary subtest, 100% of the items on the introduction to teaching reading subtest, a whole section (40 items) on the ability to read and interpret text about the philosophy and practices of education in general, and a 30-minute essay type question on issues not based upon acquired knowledge and skills possibly derived from teacher education type courses or programs. Discrepancies were found in the implied value and applications of the structure, administration, scoring, and results of the 1923 and 1983 tests.

II-6 Reading habits

SEARLS, EVELYN F. Do you, like these teachers, value reading? *Reading Horizons*, Summer 1985, *25*, 233-238.

Reports results of a questionnaire survey of 64 kindergarten through sixth grade teachers designed to tap their reading habits and attitudes. The 16-item questionnaire is provided along with percentage responses to the inquiries. Among the results are these: Ninety-one percent of the respondents reported regularly reading magazines, 77% regularly read newspapers, and 52% read professional journals regularly. Ninety-five percent reported reading for pleasure, while 94% read for information other than that required for their own jobs. Sixty-one percent had read a novel in the last month, 60% reported carrying reading material with them when they anticipated a wait, and 88% rated themselves as either excellent or good readers (as compared with 6% who rated themselves as fair). No teachers rated themselves as poor readers. Ninety-seven percent of the kindergarten through second grade teachers and 82% of the third through sixth grade teachers reported that they read aloud to their students. Ninety-two percent of kindergarten through second grade teachers and 84% of third through sixth grade teachers reported having a period of sustained silent reading in their classrooms.

BADER, LOIS A., & JOHNSTON, MICHELLE A. Intellectual and personal development of prospective teachers through reading. *The Reading Professor,* Spring 1985, *10*(2), 15-18.

Gathers information on the reading interests, habits and attitudes of 218 upper level elementary and secondary preservice teachers. Of interest also were the students' perceptions of the extent to which teachers at various levels had influenced or endeavored to influence reading choices. Data drawn from self-reporting forms showed the amount of time spent in reading as preparation for courses as well as that devoted to personal interests of the individuals, the kinds of materials perused, as well as influences brought to bear by homes, peers, and college, high school, and elementary school teachers. The majority of the education majors' responses revealed that they did pursue reading as a leisure time activity. Specifically, 77.6% of the secondary level teachers-to-be and 68.7% of the elementary people reported regular unassigned reading in books and magazines. Over 60% of both the groups read for pleasure for 6 to 10 hours weekly. A newspaper was reported as being read daily by 95% of the secondary majors and by 91% of the elementary subjects. Early home and parental influences were cited by 45% of all respondents as contributing positively to their leisure reading habits. Some 12% of subjects reported that middle school/junior high school teachers had inhibited their reading by using required book lists and assigning book reports. Teachers gradually became less influential with only 17% of the subjects feeling that college professors had influenced their reading at all. However, 37% did recall one or more professors who had encouraged the reading of unassigned books or articles. Only 2% of the prospective teachers indicated that they had followed through on their professors' suggestions.

BUTLER, CHARLES E. Science education journal/periodical reading patterns of senior level undergraduate education students at the University of Oklahoma, 1973-1982. *Journal of Research in Science Teaching,* September 1985, *22,* 485-490.

Investigates the professional journal/periodical reading patterns of preservice secondary science teachers enrolled in a science methods class. The materials for analysis consisted of 103 abstracts of journal articles turned in for class assignments over a 10-year period. Articles based on the abstracts were categorized as research or nonresearch and as specialized to a content field or as general. Only those concerned with science education specifically were analyzed. Articles from *American Biology Teacher* totalled 21% of all science education articles represented. Next in terms of journals in which numbers of articles were read were the *Journal of Research in Science Teaching* and *Science Education.* A total of 15 journal titles were represented.

BUNBURY, RHONDA; FINNIS, ERN; & WILLIAMS, GEOFF. Teachers talk about their teaching of fiction: A preliminary report of the national reading project, Children's Choice. *English in Australia,* June 1983, *64,* 3-15.

Reports the first of a series on the findings of Children's Choice, an Australian project, national in scope, that investigated the reading attitudes, interests, and behavior of children in Years 5, 7, 9, and 11 of their school life and which sought to study the interaction of teacher and pupil in the reading of fiction. The phase reported here focused on responses to questionnaires by teachers responsible for teaching reading/English. Teachers responded to a 42-item questionnaire, which generally asked for comments on a range of alternatives related to teaching features such as: syllabus, book selection, teaching/learning goals, preferred class activities and questions posed during discussion, methods of assessment, and arrangements for remedial work. Comments also were solicited on library provision and pupil access, plus the existence of book clubs in support of reading programs, and role of parents in the school. Responses to each question in the form of number of times a comment was made were expressed as a percentage of the total number of responses to a particular question.

Constraints teachers experienced in the teaching of reading included those having to do with materials, time, class size, and mixed abilities. Difficulties enumerated were TV competition, pupils' attitudes, home influences, and pupils' reading abilities. Only 35% of respondents indicated that they had read a professional journal related to reading, literature, or language arts in the month prior to the administration of the questionnaire.

III. Sociology of reading

III-1 Role and use of mass media

STEMPEL III, GUIDO H. Gatekeeping: The mix of topics and the selection of stories. *Journalism Quarterly*, Winter 1985, *62*, 791-796, 815.

Examines the extent of agreement on both the selection of individual international and national news stories and the mix of stories of various types of nine national media: three early evening television newscasts, three prestige newspapers, two state newspapers, and one national newspaper. Media were analyzed for four similar weekdays during January, 1985. The count of newspaper stories more than 100 words long and television stories more than 30 seconds long yielded 465 different stories, 127 of which were analyzed because they appeared in at least two of the nine media. The amount of space or time was compiled for each medium in 14 categories. The six hypotheses were tested by correlation, factor analyses, and Chi Square statistics. Substantial agreement among the nine media as to the mix of various news topics but substantial disagreement as to the selection of individual items were found.

IZARD, RALPH S. Public confidence in the news media. *Journalism Quarterly*, Summer 1985, *62*, 247-255.

Conducts a nationwide telephone survey of 301 Americans to determine what they believe to be true about the news media. Based upon demographic data, persons inclined to be more critical of media performance were Republicans, conservatives, those over 60, and males. It was concluded that the public's negative attitude about the news media has mellowed. The responses to the various questions indicated respect for the news media, appreciation for the role of the news media in society, impatience with some institutional and individual media practices, and a desire to trust the news media. The subjects reported evidence that the media's commercial base may be a stronger influence than is recognized and that journalists often violate a citizen's privacy.

CARROCCI, NOREEN M. Diffusion of information about cyanide-laced Tylenol. *Journalism Quarterly*, Autumn 1985, *62*, 630-633.

Traces the diffusion of information concerning the cyanide-laced Tylenol situation in one Mideastern newspaper between September 29 and October 2, 1982. Questionnaires were completed by 221 subjects from a university campus, two telephone offices, and a real estate office. Subjects were asked when and how they first learned about the event and whether they sought additional information and passed on the information to others. Within 24 hours of news of the first three deaths over 80% had heard the news, most first hearing the story on radio (36%), followed closely by television (34%), and interpersonal sources (27%), with only 6 from newspapers. One-half sought additional information with equal numbers using newspapers and television. Students and nonstudents did not differ significantly in any way in respect to their responses.

STROMAN, CAROLYN A., & SELTZER, RICHARD. Media use and perceptions of crime. *Journalism Quarterly*, Summer 1985, *62*, 340-345.

Focuses on the impact of different media in the formation of public opinion about crime. During telephone interviews, 610 registered voters in two Maryland counties were questioned about the extent of their news televiewing, radio listening of news, and newspaper/news magazine reading, their perceptions of the causes of crime, their fear of crime, and demographic characteristics. Those obtaining most of their news from newspapers considered poverty to be the main cause of crime; frequent television viewers, a lenient court system; radio listeners, general environmental and societal ills and bad parents. Forty-three percent said they were afraid of crime, but this fear was not related to media influences. Some evidence from the study showed little media influence as those who read the newspaper every day and those who rarely read a newspaper gave the same cause of crime as did people who rarely watched and those who frequently watched television news. Bad economy and unemployment showed little media influence as major causes of crime.

JOHNSON, CAROLYN, & GROSS, LYNNE. Mass media use by women in decision-making positions. *Journalism Quarterly*, Winter 1985, *62*, 850-854, 950.

Compares nondecision-making women with decision-making women on their use of mass media. Questionnaires were completed by 216 subjects, drawn from the mailing list of the California members of the American Association of University Women. Of the 216, 83 were categorized as decision-makers and 133, nondecision-makers. Two subgroups emerged: teachers (38) and homemakers (75). Of the 11 hypotheses tested, one was significant at the .05 level, that decision-making women used all media for work-related information more than nondecision-making women.

SMITH, KIM A. Political communication and voter volatility in a local election. *Journalism Quarterly*, Winter 1985, *62*, 883-887.

Inquires if there are differences between independent and partisan voters in the sources of information they use as guides for voting in a county election. The sample of 471 subjects was stratified on the basis of age, sex, and eight geographic areas in the county proportional to current census statistics. Professional interviewers administered the survey instrument which included questions concerning voting in a specific election, interests in the campaign, income, education, partianship, vote choice, and reliance on 15 possible political information sources. The results of a series of multiple discriminant analyses showed that interest in the campaign, income, and education discriminated between the two kinds of voters. Independent voters depended more on persuasive and high effort newspaper endorsements than partisans while the latter group relied on newspaper and television news coverage, TV special programs, and TV and radio political ads.

SMITH III, HAMPDEN H. Newspapers readership as a determinant of political knowledge and activity. *Newspaper Research Journal*, Winter 1986, *7*, 47-54.

Determines whether a positive relation between media use and political participation is constant over time and if that relationship continues with similar levels of education and socioeconomic class. Data came from a university's center for political studies for 1972, 1976, and 1980. The number of subjects varied for the different comparisons. The data showed that newspaper readership is a major determinant of political knowledge and that this relationship has remained constant over time among people with different levels of education and perceived class. No relationship was found for viewing political news on television and political knowledge and activity.

GANDY, JR., OSCAR, & COLEMAN, LARRY G. The Jackson campaign: Mass media and black student perceptions. *Journalism Quarterly*, Spring 1986, *63*, 138-143, 154.

Questions how the media (television, newspapers) helped black undergraduate students form opinions about presidential candidate Jackson's character and his positions on campaign issues. Questionnaires were completed by 316 subjects in February, 1984, and by 211 subjects in the same classes in April of the same year. A content analysis instrument which focused on 15 assertions included in the questionnaire was applied to 239 newspaper items appearing within five months. Various measures of media use and responses to assertions made about the campaign on the questionnaire were correlated. Television newsviewing had stronger relationships to perceptions about Jackson and to his position on issues in the campaign than newspaper reading did.

OKIGBO, CHARLES. Media use by foreign students. *Journalism Quarterly*, Winter 1985, *62*, 901-904.

Explores foreign students' media use and relationships of media patterns and expatriation. A nonrandom sample of 249 Nigerian students from 20 cities completed a questionnaire. Included were demographic questions, attitudinal questions concerning expatriation, and a communication question in which subjects were asked to indicate on a five-point scale the frequency of their use of various media. The results showed more than three-fourths communicating personally about Nigeria, one-fourth reading Nigerian newspapers, over one-half seeking Nigerian news in American newspapers. One-third listened to the radio often and about one-half used television to get Nigerian news. Discriminant analyses showed that those who intended to remain in the United States favored American media while their returning compatriots behaved in the opposite manner.

LENT, JOHN A. Cuban mass media after 25 years of revolution. *Journalism Quarterly*, Autumn 1985, *62*, 609-615, 704.

Describes the current status of mass media in Cuba. In the 25 years since the Cuban Revolution, Cuba has developed a media system comprised of three national dailies with a circulation over 1.2 million, provincial newspapers, periodicals serving specific needs, 54 radio stations, three television stations, a news service, and a book industry. The media have been affected by shifts in the ideology and philosophy of the Revolution and statements by Castro. *Gamma*, the largest national daily with a circulation of 700,000, also publishes a rural paper, *Gamma Campesino*. *Juventude Rebelde*, the organ of Cuban youth, has a weekly circulation of 260,000 and a Sunday one of 300,000. It is estimated that there are 100 party and government periodicals, some of which are devoted to youth. The book industry is organized under the Ministry of Culture with 10 publishing companies sharing responsibilities. Details of radio and television broadcasting are included in the report.

III-2 Content analysis of printed sources

RANDOLPH-ROBINSON, BRENDA. The depiction of South Africa in children's literature. *Interracial Books for Children Bulletin*, 1984, *15*(7 & 8), 14-22.

Reviews 42 children's books to determine what images of South Africa are presented. The books, reviewed by 13 people, fell into several categories. These books were generally inadequate and had the same or similar deficiencie found in textbooks in another study. Materials about South Africa for younger readers are scarce. Brief reviews of the 42 books are included.

HARTMANN, PAUL, & KATZEN, MAY. Whose history? Black and white in South African history textbooks. *Interracial Books for Children Bulletin*, 1985, *16*(5 & 6), 10-13.

Analyzes 43 selected South African secondary school history textbooks to assess how the depiction of the past might perpetuate the political and social aspects of apartheid and white supremacy in South Africa. Although there were instances where textbooks sought to correct common historical misconceptions, the views of the past were frequently consistent with the current racial policies. Some of the characteristic ways ideological tendencies are expressed include pervasive ethnocentrism, gloryification of nationalism, the past as a model for the present, perpetuation of myths, and racism and stereotyping. These characteristics were found in three sections of the history syllabus: the eastern Cape in the early nineteenth century, contemporary South African history, and contemporary history of Africa. It was concluded that these texts were more appropriate for white nationalistic purposes than the function they purport to serve.

ALRABAA, SAMI. Sex division of labour in Syrian school textbooks. *International Review of Education*, 1985, *31*(3), 335-347.

Determines the extent of sexism in 28 Syrian school textbooks. An analysis was made of the characters to determine the numbers of male and female characters, those who were subjects of biographics, and their occupations. Male characters dominated in numbers, in leading character positions, and as subjects of biographies. Females were described for their beauty, obedience, self-sacrifice; males, for their bravery, intelligence, achievement. Of the 463 occupations, 84% were filled by males. Of the occupations mentioned, 343 were assigned exclusively to males; 12 to females only. Part of the sample was subjected to a deeper content analysis by concentrating on male-centered language, traditional sex-role expectations, derogation of women, victimization and acquiescence. It was concluded that in these textbooks the overall stance was patriarchal and male-favored and that the historical roles of Arab women were not portrayed accurately.

BERRY, GORDON L. Community college textbook evaluation project: A program improvement approach. *College Student Journal*, Summer 1985, *19*, 160-166.

Reviews 207 textbooks used in an urban California community college. A team of 16 subject matter specialists ascertained how the content of the books covered cultural, racial, and religious diversity, as well as male and female roles, social class, and entrepreneur and labor attributes. Evaluators wrote summary statements for the books. In the final report, the 64 books identified as having problems were commented upon in detail.

MARTINDALE, CAROLYN. Coverage of black Americans in five newspapers since 1950. *Journalism Quarterly*, Summer 1985, *62*, 321-328, 436.

Compares the press coverage of black Americans in five newspapers published between 1950 and 1953 and 1972 through 1980. Three issues a year of each newspaper for the first period and six issues per newspaper for the second period were content analyzed for any general news items pertaining to blacks. Articles were classified into four categories. The coverage remained high in the four leading papers in the 1970s after the civil rights movement subsided. Increased attention to everyday life activities, to causes of black problems, and to individual achievements was found. A decrease in coverage of black activities was found in the medium-sized metropolitan daily newspaper.

PRITCHARD, DAVID. Race, homicide and newspapers. *Journalism Quarterly*, Autumn 1985, *62*, 500-507.

Examines newspaper coverage of 90 homicide prosecutions in two newspapers in one Wisconsin county between January, 1981, and June, 1982. Police and court records on each case were reviewed for the defendant's sex, age, and race. News coverage of the 744 stories was measured by average length of stories, fairness of coverage, and thoroughness of coverage. Multiple regression techniques estimated the effect of race on average story length; discriminante analysis predicted whether cases would be covered fairly and thoroughly. Control variables included measures of the severity of the homicide, the defendant's prior record, sex of the defendant and the victim. The main finding was that the race of the suspect made a difference in the way the two newspapers covered the case. These papers differed on other factors studied.

POTTER, W. JAMES. Gender representation in elite newspapers. *Journalism Quarterly*, Autumn 1985, *62*, 636-640.

Determines the proportion of front page news stories featuring males and females in five American newspapers. A coding system consisting of five story-type categories and 13 subcategories was used to analyze 2,224 stories from 200 front pages published for one week in April and in October in 1918, 1933, 1963, and 1983. The gender of the main characters was also coded. Females were the main characters in 162 stories (7.3%); males, 1,371 stories (61.6%); both genders in 72 stories (3.2%); neither in 619 stories (27.8%). The number of stories featuring women decreased over time. The proportions of stories featuring women varied by story type, having more representation in stories dealing with popular and sensational topics and under-representation in news stories about government and business.

LUEBKE, BARBARA F. News about women on the A Wire. *Journalism Quarterly*, Summer 1985, *62*, 329-333.

Analyzes United Press International A Wire stories for one week in 1983 as to amount and kinds of news about women and determines how morning newspapers used these stories. The 497 wire stories were coded as news about women (16.5%) and other (83.5%) and their nature (soft, hard). Stories from 54 issues of eight newspapers were classified into one of 12 news categories. Slightly more than half of the women stories carried by the wire service were published in at least one of the newspapers, and no one story was used by all eight papers. Of the 44 stories published by women, 41 (93%) were coded hard news. Criminal, health, and victim stories were transmitted most by UPIA and were also popular with editors.

SILVER, DIANE. A comparison of coverage of male and female officials in Michigan. *Journalism Quarterly*, Spring 1986, *63*, 144-149.

Compares coverage of men and women who fill the same or similar occupational roles, controlling for seniority, in 21 state newspapers. The three kinds of analyses included coverage of all state legislators, all female legislators and male legislators having the same seniority as the women, and all state officials. The number of mentions was determined for the first and second officials encountered in each of the 450 stories; these mentions were coded as job related or nonjob related. Women were mentioned less often than their male counterparts; but when the analysis was controlled for seniority, the difference almost disappeared. No real differences were found in the lengths of stories mentioning females first and those mentioning males first. In the coverage of legislators and all state officials, women were mentioned more often in nonjob or feature contexts. Almost all mentions of males are in job-related contexts.

LATIMER, MARGARET K. Political advertising for federal and state elections: Images or substance? *Journalism Quarterly*, Winter 1985, *62*, 861-868.

Examines the content of advertisements in six Alabama daily newspapers for in-state federal races (U.S. House and Senate, 1978-1984) and for the 1978 gubernatorial race. Also analyzed were 40 weekly newspapers for federal ads in 1984. Advertisements were scored for personal and policy content at every occurrence in each newspaper for four months (July-November) in 1978, 1980, 1982, 1984. The result of t-tests showed that challengers' ads in state contests had significantly higher content (issue) scores than those of incumbents, but the differences were less pronounced in federal races. In noncompetitive federal races the personal content of winners' ads is significantly higher than that of losers. In the House and Senate races no significant difference was found for issue-based messages, but a significant difference was found in personal content.

STOVALL, JAMES GLEN. The third-party challenge of 1980: News coverage of the presidential candidates. *Journalism Quarterly*, Summer 1985, *62*, 266-271.

Questions how the press covered Anderson's campaign and compares this coverage with that received by Carter and Reagan. An analysis of news stories in 50 daily newspapers resulted in a list of 757 news events published about the campaign between September 2 and November 2. The news story's length, placement in the paper, headline size, number of pictures, and source were coded. The contents were classified as either party or nonparty events. Anderson received 30.5% of the presidential candidate news events; Carter, 31.6%; and Reagan, 37.9%. Anderson led in two categories of news events, both concerned with comments about the campaign rather than the issues. He trailed in the issues categories.

DATES, JANETTE LAKE, & GANDY JR., OSCAR, H. How ideological constraints affected coverage of the Jesse Jackson campaign. *Journalism Quarterly*, Autumn 1985, *62*, 595-600, 625.

Examines the influence of ideology, format, and readership on the coverage of Jesse Jackson's campaign. An analysis of three daily newspapers and four news magazines published from October 10, 1983, through April 10, 1984, yielded 190 articles about the campaign. From these 4,103 assertions were classified into nine categories, each dealing with a certain aspect of Jackson's public image. Ideology was divided into three classes: liberal, moderate, conservative; format referred to newspaper or magazine; readership was classified as elite or general. T ratios were computed for each comparison group. Liberal sources placed a significantly higher emphasis on Jackson's capability than conservative publications. Elite readership was more likely to be be exposed to statements about Jackson's capability, both positive and negative, and more likely to be exposed to negative evaluations. Format was the most important factor associated with kinds of assertions likely to be emphasized about the campaign.

SALWEN, MICHAEL B. Does poll coverage improve as presidential vote nears? *Journalism Quarterly*, Winter 1985, *62*, 887-891.

Examines 264 poll stories published in the front sections of two Detroit newspapers from July 25 to the day before the elections of 1968 and 1984 to determine whether more methodological information is reported as presidential elections near and whether more is included in presidential polls than in other election polls. Each election year was divided into three time periods. Each poll story was coded for the appearance or absence of seven variables (sample size, population, question wording, timing, sampling error, sponsor, method of contacting subjects). Chi-square values were computed for changes. Only two variables showed significant improvement: sampling error in presidential polls and timing in nonpresidential polls. For presidential polls, four of the variables were reported more than two-thirds of the time; for nonpresidential polls, three variables appeared two-thirds of the time.

JOHNSON, KAREN S. The honeymoon period: Fact or fiction? *Journalism Quarterly*, Winter 1985, *62*, 869-876.

Uses quantitative and qualitative content analysis to determine how the press portrayed politicians for 11 weeks after their election to office, to describe trends in communication content, and to compare the portrayal of transition news in newspapers and news magazines. Political articles on the front page and in the political and editorial sections of the New York *Times* and the Washington *Post* were coded and compared with political stories in *Newsweek* and *Time*. Coding procedures were developed and used. The quantitative analysis revealed that the presidential transition coverage for 1968-69, 1976-77, and 1980-81, the years analyzed, was overwhelmingly neutral in tone. Few negative units were found. The qualitative analysis showed an increasing trend towards negativism, more analysis, and a variety of stories. *Newsweek* provided more negative coverage than the other publications.

MONTGOMERY, LOUISE F. Criticism of government officials in the Mexican press, 1951-1980. *Journalism Quarterly*, Winter 1985, *62*, 763-769.

Analyzes six Mexican newspapers from 1951 through 1980 to determine the extent of criticism of top government officials and the styles of writing. The 10 issues of each newspaper per year, the dates randomly selected, yielded 1,425 editorials and columns. Coders indicated on a seven-point scale the intensity of the criticism about the president and cabinet officials and interpreted whether the writing style was direct or indirect. These newspapers were critical of the officials, in varying degrees, over the 30-year period studied, with a trend being towards more criticism. Cabinet members received more adverse criticism than the president did in both editorials and columns. Cabinet officials received more direct criticism (57%) than the president received (36%). It was concluded that, contrary to popular opinion, newspapers criticized government officials while in office.

POLLAY, RICHARD W. The subsiding sizzle: A descriptive history of print advertising, 1900-1980. *Journal of Marketing*, Summer 1985, *49*(3), 24-37.

Examines 2,000 print advertisements drawn from the 10 largest selling magazines for each of the first eight decades of this century. Dimensions analyzed included the nature of the advertiser and product; space; art form; people and objects pictured; use of such techniques as testimonials, humor; references to competition; rhetorical focus. Both fads and long-term trends for each decade are recorded. Depictions trended toward, then away from, the portrayal of people; rhetorical focus, directly assertive styles; tactical focus, benefits of products advertised. Throughout the period, art and color were used more intensively; advertisements grew in size; photography became the dominant source of images.

DONOHUE, GEORGE A.; OLIEN, CLARICE N.; & TICHENOR, PHILLIP J. Reporting conflict by pluralism, newspaper type and ownership. *Journalism Quarterly*, Autumn 1985, *62*, 489-499, 507.

Compares conflict reporting in 83 Minnesota newspapers in 1965 and in 1979 having different kinds of structural pluralism, newspaper types, and newspaper ownership. The newspapers in 1965 included 49 weeklies, 15 semi-weeklies, 19 dailies; in 1979, 52 weeklies, 10 semi-weeklies, 21 dailies. Content was analyzed in four editions of each newspaper during February of each year. Local conflict was coded as to the space in column inches, factions, or interest groups. These newspapers had larger newsholes and reported a greater amount of local conflict in 1979 than in 1965. The increases in conflicting reporting were greatest in the less pluralistic regions and in weeklies. Those having out-of-state ownership reported less conflict than those with within the state as well as with the same papers in 1965. Semi-weeklies published the least conflict.

DOUGLAS, SARA; PECORA, NORMA; & GUBACK, THOMAS. Work, workers and the workplace: Is local newspaper coverage adequate? *Journalism Quarterly*, Winter 1985, *62*, 855-860.

Analyzes dailies in three middle-sized Illinois cities published in February, 1983, for coverage of work and workers with emphases upon employees, not employers. The 265 labor-related news items from the three newspapers were categorized into three groups. Of these, 130 items (49%) were classified as worker-related; 53 (20%), social issues; 82 (31%), institutional issues. Each group was further analyzed, and comparisons were made among the newspapers.

SULLIVAN, DENIS F. Comprehensiveness of press coverage of a food irradiation proposal. *Journalism Quarterly*, Winter 1985, *62*, 832-837.

Examines press coverage in 26 newspapers of the proposal to expand the use of radiation to kill insects in fruits and vegetables and to prevent food spoilage. A list of 16 issues proposed by the Federal Drug Administration was used to judge the comprehensiveness of each article published within a three-day period. The story was covered by 22 newspapers analyzed on at least one day. Two issues were mentioned in each paper. It was concluded that the press coverage of the food irradiation proposal failed to give the public the information necessary for informed decisions about the process.

FOLKERTS, JEAN, & LACY, STEPHEN. Journalism history writing, 1975-1983. *Journalism Quarterly*, Autumn 1985, *62*, 585-588.

Studies journalism history writing in *Journalism Quarterly* issues between 1976 and 1983. The 82 articles were coded into five component measures: research method, unit of analysis, time frame, research design, historical approach. The articles were also categorized as conventional or unconventional based upon criteria developed for each type. Unconventional articles (47.6%) were mostly analytical, modern in historical approach, and quantitative. They studied the interaction of individuals, organizations, and social forces. A high percentage of conventional articles (52.4%) dealt with interaction and used an analytical research design; fewer than 10% of these used a quantitative research method, dealt with trends, or took a modern historical approach. The articles were also categorized by century studied. Overall, 52.1% of the 48 articles about the 20th century and 41.2% of the 34 articles about the 17th, 18th, and 19th centuries were unconventional.

GOOD, HOWARD. The journalist in fiction, 1890-1930. *Journalism Quarterly*, Summer 1985, *62*, 352-357.

Examines the characteristics of fictional journalists found in approximately 75 novels and short stories published in the United States between 1890 and 1980. Written primarily by newspapermen, the fiction revealed attitudes of journalists toward their work. It was concluded that newspaper fiction included many contradictions. Journalism was often considered a toil to be abandoned for better jobs. Common plots and attitudes of journalists were illustrated.

STOCKING, S. HOLLY. Effect of public relations efforts on media visibility of organizations. *Journalism Quarterly*, Summer 1985, *62*, 358-366, 450.

Concludes that school prestige and productivity were related to visibility of medical school research but public relations efforts on behalf of medical school research were not. Media visibility scores resulted from a content analysis of the three major national news magazines and four metropolitan newspapers. Medical research stories mentioning U.S. medical schools were coded from every news magazine and from 15 constructed weeks during one

year. Public relations efforts scores were derived from survey data obtained from medical school public information offices. A medical information retrieval service provided research productivity data while prestige scores on each story came from a study of medical school reputations. The variables for 45 schools were analyzed using standard multiple regression techniques.

BURRY, YVONNE HEATHER; HOLSINGER, G. ROBERT; & KRENDL, KATHY A. Restaurant critics: Who are they? What are they saying? *Journalism Quarterly*, Summer 1985, *62*, 400-403.

Analyzes 115 restaurant reviews prepared by 20 writers who had also completed a questionnaire. Measures used in the content analysis included the type of restaurant, use of personal data, and editorial elements (as style of writing, length). Magazine reviews were approximately twice as long as newspaper ones. Most were written impersonally and in first person. Use of rating symbols occurred in one-third of newspaper reviews and one-fifth of magazine reviews. A profile of restaurant reviewers based upon the results of the questionnaire was developed.

HACHTEN, WILLIAM A., & BEIL, BRIAN. Bad news or no news? Covering Africa, 1965-1982. *Journalism Quarterly*, Autumn 1985, *62*, 626-630.

Illustrates how news events of Ghana and Tanzania were reported in two United States and one London newspapers during 1965-1982. From the 650 articles identified, two subsamples were content analyzed. Three events per article were recorded for each article and compared with those reported in *Keesing's Contemporary Archives*. Each article was coded into one of 24 subject categories and classified as possessing either a crisis or noncrisis orientation. Both the frequency and coverage of the two countries have declined since 1965 in all three newspapers; but no statistically significant changes in the contents were found. Approximately 40% of the 365 articles examined reported a crisis event.

BULLION, STUART J., & BYTWERK, RANDALL. U.S. news media citations in *Neues Deutschland*. *Journalism Quarterly*, Spring 1986, *63*, 170-174.

Analyzes content of Berlin's *Neues Deutschland* for mentions about the United States or citations from the U.S. news media from April 1 to June 30, 1983, and the same time periods in 1966 and 1976. All stories mentioning the United States or citing U.S. media by name were coded into one of eight content categories. In 1983, 1313 stories were coded, 147 citing a U.S. news media source. The New York *Times* was cited the most (29.3%) followed by the Washington *Post* (16.6%). In 1966, 617 (10.7%) stories cited U.S. media; in 1976, 433 (8.1%). While the proportion between 1966 and 1976 was not significant, the 1976-1983 increase of 3.2% was.

JOHNS, JERRY L.; BROWNLIE, COLLEEN FAYE; & RAMIREZ, RHODA L. How newspapers cover education in three countries. *Journalism Quarterly*, Spring 1986, *63*, 177-180.

Examines one newspaper from each of three countries to determine the kind and extent of education coverage. Nearly 500 articles published the first two weeks of February, March, and April, 1983, were placed into 13 categories and percentages determined. Venezuela's *Panorama* published more than twice as many education items as did the Chicago *Tribune* or the Vancouver *Sun*. In the *Panorama* and the *Sun*, political discontent among teachers was the most discussed topic. A large range of issues received editorial comment in all three papers. Budgets, facilities, sensationalism, and programs/student concerns were other categories pursued. All three newspapers advertised upcoming conferences.

LEE, CHIN-CHUAN. Partisan press coverage of government news in Hong Kong. *Journalism Quarterly,* Winter 1985, *62*, 770-776.

Studies the use of government information by the Hong Kong press by focusing on the coverage of the Government Information Services' *Daily News Bulletin* by the Chinese press. A constructed week was established between July, 1980, and July, 1981. The content of the government publication was coded into 12 categories for the seven sample days. The government information found in eight morning Chinese dailies, ranging from ultra-leftist to ultra-rightist in political ideology, was likewise coded to provid a comparison. The government publication set the agenda for the Hong Kong Chinese press, with ultra-leftist papers using a smaller number of these stories (42) than their centrist (59), rightist (105) and ultra-rightist (87) counterparts. The proportion of government information being edited by the newspapers is related to the left-right continuum of the press, statistically significant at the .001 level. Ultra-rightist papers preserve 56% of the stories intact compared with only 14% of the ultra-leftist papers.

III-3 Readability

STAPLER, HARRY. The one-sentence/long-sentence habit of writing leads and how it hurts readership. *Newspaper Research Journal*, Fall 1985, *7*, 17-27.

Examines 360 news stories in 12 metropolitan newspapers to determine if sentences in lead paragraphs are longer and if lead paragraphs are more difficult to read than the subsequent paragraphs. Sentence length was counted in 15 stories of four or more paragraphs in each paper for two successive days. The percentages of one-sentence paragraphs were determined. The mean length of sentences in the lead paragraphs was 26.1 words with a median of 28.1. Both figures were in Flesch and Gunning's difficult-to-read range. In paragraphs 2 through 4, the mean length was 21.7 words; the median, 23.1. Lead paragraphs are twice as likely to use one sentence as the next three paragraphs.

MACKLIN, M. CAROLE; BRUVOLD, NORMAN T.; & SHEA, CAROL LYNN. Is it always as simple as "Keep it simple!"? *Journal of Advertising*, 1985, *14*(4), 28-35.

Questions whether the readability level of printed advertisements influences judgments about the products. To determine whether readability level affects the unaided recall of an ad, attitude toward the brand, purchase intent, and attitude toward the ad, analysis of variance with three levels of one factor (low, middle, and high readability levels) was used. Analysis of covariance was used to insure subject comparability. Three print ads varying in readability levels were constructed and judged to be comparable in concreteness. The 127 persons participating in the experiment read an ad and completed a 4-part questionnaire from free recall. Systematic random assignment was made of the subjects to the three treatment groups. When the concreteness of the messages was held constant, the readability of the ads made no statistically significant difference on the number of brand claims recalled, the attitude toward the brand, the purchase intent of the brand, or the attitude toward the print ad.

III-4 Reading preferences and interests

FINN, SETH. Unpredictability as correlate of reader enjoyment of news articles. *Journalism Quarterly,* Summer 1985, *62*, 334-339, 345.

Concludes that reader enjoyment of nine sample articles concerned with Apollo II moonwalk from nine diverse sources is related to both syntactic and semantic unpredictability. Reading materials were prepared for the cloze procedure. Deleted words in each passage were partitioned into two groups, one comprised of words related to syntactic structure and

another, words related to semantic content. In the first part of the experiment, each of 144 junior college and state university students completed a questionnaire and read and rated one article on a seven-point scale from "Enjoyed Not at All" to "Enjoyed Very Much." The mean reading enjoyment score for each article was computed from the ratings of 16 participants. A comparable group of 144 subjects completed cloze tests on the same articles. Average unpredictability scores were calculated for each article based upon entropy scores (Shannon's entropy formula).

WILLINSKY, JOHN, & HUNNIFORD, R. MARK. Reading the romance younger: The mirrors and fears of a preparatory literature. *Reading-Canada-Lecture*, Spring 1986, *4*, 16-31.

Replicates a 1984 study by Radway, using 42 grade seven students instead of 42 adult romance readers. On a questionnaire and in interviews the younger subjects showed themselves as avid fans of young adult romance. They completed a modified Radway questionnaire. Eight of the girls were taped during an interview based on issues from the first study and specific young adult romance novels. Differences in the two sets of subjects were pointed out. In the long essay, of which the foregoing study is a part, the writers express their concerns about the aggressive economy of literacy which produces the romance as the book of fashion for the young, the preparatory function which these books successfully serve for the students, and the limited nature of the life these romances portray for their readers.

III-5 Readership

LAIN, LAURENCE B. Steps toward a comprehensive model of newspaper readership. *Journalism Quarterly*, Spring 1986, *63*, 69-74, 121.

Uses as variables media exposure, life situation, and sociopsychological needs when attempting to explain reasons for newspaper use. Telephone interviews were held with 39 adults. Their responses pertaining to sociopsychological needs were factor analyzed, resulting in three factors: surveillance (keeping up with events), companionship, stimulation. Multiple regression identified variables that influenced the foregoing needs. Independent variables were exposure to news media in childhood and life situations characteristics; dependent variables, the three identified factors or needs. White, males, and younger subjects displayed greater surveillance needs than nonwhites, females, and older subjects. Those with less exposure to news media as children, whites, and females exhibited greater companionship needs. Less exposure to news media in childhood was the only predictor of stimulation. In multiple discriminant analysis, subscribing or nonsubscribing to a daily newspaper was the dependent variable, while childhood exposure to news media, life situations, and sociopsychological needs were the independent variables. Those most likely to be subscribers were more integrated into the community, older, more educated, and having greater surveillance needs.

KEBBEL, GARY. Importance of political activity in explaining multiple news media use. *Journalism Quarterly*, Autumn 1985, *62*, 559-566.

Determines variables that explain multiple news media use. A combination of demographic and political participation variables was used in a multivariate log-linear analysis with logit models to help develop a model of multiple news media use. The dependent variable was an index of multiple media use for news acquisition; independent variables were gender, age, education, income, index of political activity. After a series of analyses, it was found that the best predictor of multiple news media use was political activity, accounting for 57% of the variance, followed by age (55 or older) with 19% of the variance, and education, 13% of the variance. Subjects with college education have higher rates of multiple news media use than those with a high school education. The total model accounts for 90%.

SHOEMAKER, PAMELA J.; REESE, STEPHEN D.; & DANIELSON, WAYNE A. Spanish-language print media use as an indicator of acculturation. *Journalism Quarterly*, Winter 1985, *62*, 734-740, 762.

Tests whether the Hispanic population in Texas is fully acculturated by studying their use of Spanish-print media and by comparing their media use with that of Anglos. Telephone interviews were completed by 308 Hispanics and 739 Anglos in the spring of 1984. Interviewers were bilingual and used either Spanish or English. Anglos read daily newspapers and magazines more than Hispanics, the differences tending to be limited to the less educated, older, and lower income subjects. The vast majority of Anglos and more than three-fourths of the Hispanics never read Spanish print media. No difference between the two groups was found in the amount of time spent reading newspapers and magazines. Older subjects placed more importance on Spanish-language newspapers than younger subjects did. Evidence was mixed on the relation of use of Spanish-language media and acculturation; young Spanish adults may be more acculturated than older ones.

COBB, CATHY J., & KENNY, DAVID. Adolescents and the newspaper: Images in black and white. *Newspaper Research Journal*, Spring 1986, *7*, 1-8.

Examines racial differences in media behavior, with emphasis on newspaper readership, and socialization of approximately 1,000 black and white eleventh- and twelfth-graders. Self-administered questionnaires were completed by the subjects; data were analyzed by two-group discriminate procedure. Twenty-six variables discriminated significantly between black and white adolescents, the two most important being social responsibility and availability of time to read the newspaper. Others were the average time spent watching television, number of weekday newspaper read, view of parents as significant others, vocational school plans following graduation, perceived importance of the newspaper to the female parent, and use of the newspaper for product information. Other differences were noted.

LAIN, LAURENCE B. More evidence on the needs of readers. *Newspaper Research Journal*, Summer 1985, *6*, 8-18.

Focuses on the socio-psychological needs associated with newspaper reading and identifies characteristics of people most likely to exhibit these needs. Telephone interviews were completed with 400 adults concerned with demographic characteristics; three types of needs (surveillance, diversion, parasocial); childhood exposure to news media; and integration within the community. Responses to the needs of questions were factor analyzed. Factors identified were named surveillance, defined as need to keep up with events; companionship; and stimulation. Characteristics promoting the development of the needs identified by factor analysis were analyzed through stepwise multiple regression. Surveillance needs were most strongly influenced by race, sex, and age; companionship, exposure to news media, sex, race, stimulation, less exposure to news media in childhood. Subjects with highest surveillance needs were white, male, younger; and highest companionship needs, white, female, lower levels of childhood news exposure. The need for stimulation was the strongest predictor for viewing television news and had little to do with newspaper readership.

FOWLER, JR., GILBERT LEN. An examination of readership changes: Does altering publication time affect the reading habit? *Newspaper Research Journal*, Fall 1985, *7*, 37-44.

Questions if readers will change their reading habits when a local newspaper changes from evening to morning publication. In the first phase of the study, completed before the change took place, 138 households subscribing to a daily newspaper completed telephone interviews. They answered questions about newspaper subscribed to, amount of time spent daily reading the local paper, and time of day when they read it, as well as demographic information. In phase two, conducted approximately two years later, 102 of the same subjects completed the same survey. The time of day when the paper was read changed significantly,

but the amount of time spent reading did not change. Subjects continued reading nonlocal papers even when they were in direct competition with the local paper. The variable of age, income, length of time subscribed to paper, and size of household did not predict more than 4% of the variance in the time of day the paper was read (step-wise regression analysis).

RARICK, GALEN R., & LEMERT, JAMES B. Subscriber behavior and attitudes in response to PM-AM conversion. *Newspaper Research Journal*, Winter 1986, *7*, 11-18.

Investigates readers' responses, attitudes, and behavior when a seven-day newspaper changed its Monday-to-Friday evening to morning publication. Telephone interviews were conducted, both before and after the change, with 256 adults in randomly selected subscriber households who answered questions concerning their demographics, use of mass media, and attitudes towards the media. After the change in publication time, the average time spent reading the newspaper in the morning increased and televiewing of both the morning and evening news decreased. The subjects spread their reading more throughout the day and had some difficulty making the adjustment to morning news but without significant opposition. Blue-collar workers were the least favorable to the change.

TOWERS, WAYNE M. Weekday and Sunday readership seen through uses and gratifications. *Newspaper Research Journal*, Spring 1985, *6*, 20-32.

Hypothesized that the concepts of surveillance, diversion, and interaction would explain some newspaper readership behaviors. In a telephone survey 543 adults were asked questions concerning demographics, media usage, and their reactions to 14 uses and gratification statements. The expected three factor groupings emerged from the factor analysis, but they did not load on the resulting groups as expected. To examine linkage between gratification statements and exposure to newspapers, stepwise discriminant analysis was used. The results showed that newspaper subscribers receive both weekday and Sunday newspapers because of a commitment to surveillance of the environment. Weekday single copy readers use newspapers as a tool for social interaction while Sunday single copy readers desire a single recapitulation of the week's events.

TOWERS, WAYNE M. Replication of a study on uses and gratifications for weekday and Sunday readers. *Newspaper Research Journal*, Spring 1986, *7*, 61-68.

Replicates an earlier study of newspaper readership and uses and gratification. Telephone interviews using the same questions were conducted with a parallel sample of 557 adults from the same market. Replies to the uses and gratification statements were coded from strongly agree to strongly disagree. Factor analysis showed that the three original factors (surveillance, diversion, interaction) were reduced to two and renamed: information and entertainment. Discriminant analysis was used when the selected variables identified in the first study were applied to the second study in terms of newspaper readership. Daily subscribing was strongly related to getting immediate knowledge of big news events. Nonreadership of Sunday newspapers (tested by not reading the previous Sunday) was related to the notion of passing time and the idea that newspapers would be used occasionally for details of particular events. Single copy readers wanted knowledge of big events only on a weekly basis.

STAMM, KEITH, & WEIS, ROBERT. The newspaper and community integration: A study of ties to a local church community. *Communication Research*, January 1986, *13*, 125-137.

Pursues the relation between community ties, including church membership, and subscriptions to church and commercial newspapers. Telephone interviews were conducted with 500 Catholic parishioners, age 16 or over. Independent variables were length of church membership, identification with other church members, participation in church-related groups, and involvement in three issues of special interest to local Catholic groups. The de-

pendent variable was subscription to newspapers. Church ties were positively associated with subscribing to the local newspaper, with participation in church groups having the strongest relationship. Some ties to local churches were positively associated with commercial newspaper subscribing, especially participation in church groups. Ties to church and volunteer associations had separate and joint relationships to commercial newspaper subscribing.

HEIKKINEN, KALLE J., & REESE, STEPHEN D. Newspaper readers and a new information medium: Information need and channel orientation as predictors of videotex adoption. *Communication Research*, January 1986, *13*, 19-36.

Examines how newspaper readers differ among themselves in their attitudes toward videotex, a medium capable of transmitting newspaper content electronically. A theoretical model was developed, based upon information need and orientation toward new information channels to predict if and how videotex will be incorporated into existing information media. Three user groups were identified: loyalists, who would remain with newspapers; shifters, who would replace newspapers with videotex; and adders, who would use both. Telephone interviews were conducted with 369 persons, 18 years or older. They answered questions about their attitude toward videotex and about their newspaper reading habits. Discriminant analysis of the data supported the proposed model. Adders have a higher information need than the single medium users, who in turn are different from each other by their channel preferences. Loyalist are traditional; shifters are modern.

III-6 Library usage

MILLSON-MARTULA, CHRISTOPHER. The effectiveness of book selection agents in a small academic library. *College & Research Libraries*, November 1985, *46*, 504-510.

Questions whether faculty members or librarians make more effective collection decisions in a small college academic library. For each of the 681 history books added, chi square was used to test the significance of any differences in the use of books selected by faculty and those chosen by librarians. Of these books, 420 (60.7%) circulated. Although the faculty made more effective book selections than the librarians in terms of circulation per book and books with multiple circulations, the difference was not statistically significant (chi square). Inconclusive results showed that there was no proof that circulated books have a higher level of activity during the first three years than later.

III-7 Literacy and illiteracy

SOLOTOW, LEE, & STEVENS, EDWARD. *The Rise of Literacy and the Common School in the United States: A Socioeconomic Analysis to 1870.* Chicago, IL: The University of Chicago Press, 1981.

Examines social and economic variables associated with extent and dispersion of literacy in the United States before 1870. The data for the study are drawn from federal census manuscripts, local school attendance records from Ohio and New York, military records, newspapers, textbooks, children's literature, deeds, wills, and estate inventories. The development of literacy and schooling in Ohio between 1800 and 1870 is examined in particular as a case study. Relations between the common school and literacy are discussed, with levels of study in reading, writing, spelling, and grammar approximated from school attendance records. The level and distribution of illiteracy between 1840 and 1870 are examined by studying state, county, and regional variations.

AKENSON, JAMES E., & NEUFELDT, HARVEY G. Alabama's illiteracy campaign for black adults, 1915-1930: An analysis. *The Journal of Negro Education*, Spring 1985, *54*, 189-195.

Describes Alabama's illiteracy campaign from 1915 to 1930 as it affected black adults and assesses its impact. During this period literacy rates among the black population increased. Although blacks who received Opportunity School training and became literate felt the Alabama illiteracy campaign was a success, it was doubtful that the literacy program was the major contributor to the decline in black illiteracy rates. Started during the white supremacy movement, linked to voting rights, and led largely by black teachers, the campaign did not have resources to reach effectively a large population on a systematic basis. Illiteracy continues to exert an impact on the citizens of Alabama as disparities between black and white students due to environment, family background, and weaker black educational programs continue.

LIMAGE, LESLIE J. Adult literacy policy in industrialized countries. *Comparative Education Review*, February 1986, *30*, 50-72.

Examines historically illiteracy and its problems in three industrialized nations: Great Britain, France, and the United States. Discussed for each country were the estimated extent of illiteracy, the origins of campaigns and adult literacy provisions, campaign results, and future prospects. Similarities and differences among the countries concerning the eradication of illiteracy were noted. The recognition that sizable numbers of adults in industrialized countries are unable to read or write at acceptable levels is of fairly recent date. The origin of the adult literacy campaigns in Great Britain and in France was in the 1970s, while in the United States the existence of adult illiteracy has been recognized for many years. Organizations attempting to overcome illiteracy are included in the report. Because the vast majority of adult illiterates have not and will not be reached by current methods, a national commitment is the only solution.

REEVES, NOELENE. How literate is literate? Changing views of literacy in Australia. *Australian Journal of Reading*, June 1985, *8*, 55-64.

Traces the status of literacy in Australia from mid-nineteenth century to the present time. A literate society is here defined as one that has become print dependent for essential communication. In 1862, when 306 male convicts were asked if they could read and write, 233 said yes; when evaluated, only 79 could read with understanding. People's perceptions of desirable literacy over the past 100 years has changed. Compulsory elementary schooling was not an overwhelming success at first. The style and contents of newspapers changed as more people became literate; books became more available. Although there were major educational reforms, it was a shock to find a high incidence of illiteracy and inadequate reading and writing skills among World War II service recruits. The concept that everyone should read and write dates from the advent of compulsory secondary education occurring in the early 1960s.

LEHNING, JAMES R. Literacy and demographic behavior: Evidence from family reconstitution in nineteenth-century France. *History of Education Quarterly*, Winter 1984, *24*, 545-559.

Examines through a case study approach relationships between education and literacy on the one hand and family formation on the other. Data came from a family reconstitution study of a nineteenth century French village. Of the 641 marriages that took place between 1841 and 1880, 253 formed the basis of this study. Signatures on the marriage act provided the measure of literacy. Socioeconomic status, not literacy, affected the age of marriage. Nor was there any independent effect of literacy on marital fertility or age of the mother at the time of the birth of the last child.

FURET, FRANCOIS, & OZOUF, JACQUES. *Reading and Writing: Literacy in France from Calvin to Jules Ferry.* Cambridge, England: Cambridge University Press, 1982.

Traces the historical development of literacy in France. Early indicators of literacy are based on an unpaid survey carried out in 1877 by Maggiolo in which village schoolmasters were asked to record all marriage signatures in their villages for four 5-year periods: 1686-90, 1786-90, 1816-20, and 1872-76. Nearly 16,000 schoolteachers replied. Additional information from other sources came from census data, the number of recruits in the armed services who could read and write, other civil records on the number of husbands and wives signing their *acte de mariage*, and the educational level of conscripts. The latter source of information began to be collected systematically in 1827. Figures from the 1866 census showed that about 56% of the total population over the age of five could read and write. A curve of the growth of literacy showed that while growth was spread over two centuries, the growth rate was faster in the 19th century. High growth literacy areas in the 18th century were primarily in northeastern France. Even before the Revolution, the Church and State battled for control of the schools. However, social stratification and social development were the keys to literacy. By the 17th century, the elite were literate while the peasantry remained mostly illiterate. Growth in literacy in the 18th century occurred primarily among the middle ranks of the old society: shopkeepers, rich peasants, merchants, and tenant farmers. It was not until the 19th century that wage-laborers began to make progress towards becoming literate.

BHOLA, H.S. A policy analysis of adult literacy promotion in the Third World: An accounting of promises made and promises fulfilled. *International Review of Education*, 1984, *30*(3), 249-264.

Reviews expert opinion regarding literacy promotion and policies in the Third World. Claims made on behalf of literacy at individual and societal levels and arguments by enthusiasts and skeptics of literacy are reviewed. Among the topics discussed are changes brought about by literacy, motivation of adults to become literate, uses of literacy, who should be taught, and lessons learned from ongoing literacy programs. Policy recommendations were enumerated.

AL-BARWANI, THUWAYBA, & KELLY, EDWARD F. Factors influencing the recruitment and retention of literacy learners in Oman. *International Review of Education*, 1985, *31*(2), 145-154.

Investigates factors influencing the recruitment and retention of learners in the national adult literacy program in Oman. Interviews were conducted with 46 adults enrolled in literacy classes, 26 dropouts and 30 nonparticipants in the capital district and the interior region of Dhahira. Responses were categorized into seven groups. Simple descriptive statistics were computed, and relationships were examined in cross tabulations. Economic, academic, and spiritual reasons were the most important motives for enrolling in the classes. Family responsibilities and program reasons, such as class schedules and difficulty of course contents, were the most often given for dropping out. Economic and family reasons were the most frequently mentioned reasons for not enrolling in the program. Their learning interest in spiritual knowledge superseded all other interests identified.

GILLETTE, ARTHUR. Youth, literacy and participation. *International Review of Education*, 1985, *31*(4), 373-395.

Identifies and compares three organizational patterns in which youth are utilized in literacy efforts in various countries: the project pattern, the program pattern, and the campaign pattern. Evidence relative to the effectiveness of each is presented along with examples of each type. The project pattern is carried out in more than one-fourth of Unesco's member states, but the number of potential youth actually involved tends to be relatively small. Activi-

ties tend to be sponsored by nongovernmental groups and a rather intense involvement is required on the part of volunteer tutors. The program pattern is found in less than 4% of Unesco's member states, involvement tends to have a compulsory element, and time involvement for tutors is limited. The campaign pattern is typified by that in Nicaragua and is found in only three or four of Unesco's member states. It targets all illiterates above the age of 10 and is thus massive in terms of the youth population mobilized as tutors. Time involvement is medium term – about 4¼ months. Various problems as well as strengths of each program type are discussed briefly.

MILLER, VALERIE. *Between Struggle and Hope: The Nicaraguan Literacy Crusade*. Boulder, CO.: Westview Press, Inc., 1985.

Details the Nicaraguan national literacy campaign from its inception to its completion and assesses its effectiveness. In collecting data, a survey of pertinent literature was used, a review of documents and central office files was made, and a series of interviews and observations were conducted. The literacy campaign grew from a political struggle which began early in the twentieth century. Great disparities in wealth and education existed. In 1976, of the approximately 70% of children who were of elementary school age and who actually entered the elementary school, over half dropped out within a year. During the 1970s in rural areas, only 5% of pupils entering primary school completed their studies; in cities, the figure was 44%. The literacy crusade was announced in August 1979. A special census in 1979 revealed a 50% plus illiteracy rate. Following the census, a series of record-keeping documents and tests were devised to determine the progress of literacy students. A primer was developed and piloted. Included was a 10-step dialogue method to teach the alphabet and to engage students in discussions of issues of community and national concern. A training program was used to prepare some 100,000 volunteer teachers. About 500,000 people participated in the program as learners. In a five-month period, some 406,000 literacy students passed a five-part examination, thereby demonstrating mastery of elementary reading and writing skills. Illiteracy was reduced to 13%. Various political, social, economic, and educational aspects of the program are discussed.

RIGG, PAT. Petra: Learning to read at 45. *Journal of Education*, 1985, *167*(1), 129-139.

Presents a case study of the problems encountered in attempting to teach a middle-age Mexican migrant woman to read and write. The author and the woman's tutor approached reading from a whole language point of view, utilizing language experience, recipes, tabloids, prayer books, and other commercially produced materials. In addition, the tutor read frequently to the woman. A major difficulty revolved around the woman's view of literacy which focused upon drawing letters of the alphabet and drawing her own name. A second major problem centered about social-cultural expectations. The woman's literacy development was strongly affected by her family and their expectations and assumptions. The author feels that this caused difficulties which were never successfully resolved.

III-8 Reading in nonschool settings

GUTHRIE, JOHN T.; SEIFERT, MARY; & KIRSCH, IRWIN S. Effects of education, occupation, and setting on reading practices. *American Educational Research Journal*, Spring 1986, *23*, 151-160.

Tests hypotheses regarding social contexts of reading activities in two studies. Social context included educational environment, occupation, and settings of work and leisure. Interviews were completed with 102 wage earners in the first study and 90 paid volunteers from a company specializing in computers and analytical instruments in the second study. In both

studies, the dependent variable was reading volume (number of minutes per day spent reading). Multivariate analyses of variance were used to test the hypotheses. Significant three-way interactions were found between education, setting, and contents (subject matter) of reading and between occupation, setting, and reading contents. Education and occupations affected reading volume of some contents but not others. Occupational and leisure reading contents were associated with distinctive reading practices. Occupation and setting combined affected reading volume.

MIKULECKY, LARRY, & EHLINGER, JEANNE. The influence of metacognitive aspects of literacy on job performance of electronics technicians. *Journal of Reading Behavior,* 1986, *18*(1), 41-62.

Ascertains if there are differences among experience levels (trainees, experienced, supervisors) of electronic technicians in terms of literacy-related factors, and if there is a relation between job performance and literacy. Four interviewers/observers observed 29 volunteer subjects on the job for eight hours and then administered a general reading comprehension test, newspaper-like passage, and a job reading comprehension test. Rating scales were used to rate subjects on metacognitive abilities of orally identifying key ideas and relating purposes for work materials. Job-related reading time averaged 104.3 minutes daily and job-related writing, 32.6 minutes. Nearly all job-related literacy was problem solving in nature. Reading ability, as measured with job-related cloze tests, did not correlate to job performance and did not discriminate electronics supervisors, experienced workers, and trainees. Metacognitive aspects of literacy related significantly to job performance.

III-9 History of reading and reading instruction

BROOKS, GREG, & PUGH, A.K. (Eds.) *Studies in the History of Reading.* Reading, UK: Centre for the Teaching of Reading, 1984.

Consists of nine papers by nine different writers concerning selected aspects of the history of reading in Great Britain. Topics discussed include reading interests of earlier civilizations, learning to read in the Middle Ages, levels of literacy in nineteenth century Wales and England, experimental psychology of reading, whole-word methods, development of English reading books from 1870, the teaching of silent reading to beginners, and phonics as related to linguistics. The monograph begins with a discussion of the relevance of the history of reading and literacy to the current teaching and study of reading and today's interest in historical developments in reading. Throughout the volume, various ideas were discussed and sometimes questioned, including different definitions and the extent of literacy at different times; historical sources, including very early ones; and virtues and flaws of different methodology used for the different topics. Readers are reminded that assumptions based upon meager evidence have been made about early reading.

CRANNEY, A. GARR. Noah Webster and William Holmes McGuffey: The men and their contributions to reading. *Contemporary Issues in Reading,* Spring 1986, *1,* 105-115.

Considers the contributions made to reading by and presents biographical details of Noah Webster and William Holmes McGuffey. In his blueback speller, Webster emphasized the alphabet method of reading instruction, oral drill and oral reading, pronunciation and spelling. He thought and wrote that education should be American, universal, pragmatic, and scientific. Best known for his dictionary, Webster spent 20 years in its preparation. His interests and scholarship crossed many fields. McGuffey eliminated spelling as a preliminary unit of mastery prior to reading but gave specific directions on articulation, inflection, modulation, gestures, emphasis, and tone. His stories, unlike those in previous books, were written

to appeal to children. His main interests in education were moral and mental philosophy, religion, elocution and debate, and the education of children. McGuffey and Webster did not consider themselves to be reading specialists.

III-10 History of newspapers

EKWELIE, SYLVANUS A., & EDOGA-UGWUOJU, DYMPNA. Ownership patterns of Ghanaian newspapers: An historical perspective. *Gazette*, 1985, *35*(1), 49-59.

Traces patterns of newspaper ownership in Ghana from the acceptance of British sovereignty to the immediate postindependence years. How various forces impinged upon the growth, development, and ownership of Ghana's newspaper is shown. The first newspaper, started in 1857, was the *Accra Herald*. The newspaper industry reached its growth apex in the 1950s when the country was at the threshold of political independence. Numerically, religious newspapers were a pillar of Ghana's early newspaper history. With the high cost of establishing a newspaper, the number of early newspapers was low. The first one to be owned by an African political group was founded in 1898. In the 1950s newspapers were either founded or sustained by parties.

III-11 Newspaper publication

SALWEN, MICHAEL B. The reporting of public opinion polls during presidential years, 1968-1984. *Journalism Quarterly*, Summer 1985, *62*, 272-277.

Investigates whether two Detroit daily newspapers provided their readers sufficient information to evaluate poll stories and whether they reported more needed methodological information in their own polls than in wire service and syndicated polls during the presidential election years from 1968 to 1984. Each of the 264 poll stories was coded for demographic information and for eight methodological variables. The reporting of most variables (sample size, population, sampling error, sponsor, method of contacting respondents, response rate) showed dramatic improvement over the years. Two variables not showing improvement were question wording and delineation of time poll was taken. Better reporting was found for in-house polls than for wire service ones. Results were reported in percentages.

GAMST, GLENN. Survival analysis: A new way to predict subscription order retention. *Newspaper Research Journal*, Spring 1985, *6*, 1-12.

Describes the technique of survival analysis as a way to predict newspaper subscription retention and applies the technique to newspaper order retention data. One newspaper's starting subscriptions in two months were followed to the time of any cancellations. Information was recorded and coded on FORTRAN coding sheets. Retention tables were established. It was concluded that the technique was successful and has a great potential.

LACY, STEPHEN. Monopoly metropolitan dailies and inter-city competition. *Journalism Quarterly*, Autumn 1985, *62*, 640-644.

Explores the impact of monopoly metropolitan dailies on circulation and advertising competition between metro dailies and nearby small daily and weekly newspapers. Data collected for another study from nine standard metropolitan statistical areas were reanalyzed. Questionnaires were completed by 78 publishers who estimated percentage increases in advertising revenue and circulation if there was no competition from other newspapers. Initial analysis showed little difference between areas with competitive dailies in central cities and those with monopolies in central cities. When distance from the metropolitan dailies was controlled, publishers from smaller newspapers facing competitive central market newspa-

pers felt more competition for advertising revenue than those facing monopoly central market newspapers. The foregoing applied to newspapers within 20 miles of metro dailies. Distance had less effect on circulation competition than on advertising competition.

FRIEDMAN, MONROE. Brand-name use in news columns of American newspapers since 1964. *Journalism Quarterly,* Spring 1986, *63,* 161-166.

Examines the journalistic uses made since 1964 of brand names in nonbusiness sections of American daily newspapers. Editors of 68 daily newspapers responded to a survey instrument. Questions about magnitude and changes of three ways journalists use trade names (celebrity descriptions, quotable quotes, literary styles) were asked. The questions were asked for two time periods: the last 10 years and the last 20 years. Each type of brand-name usage was seen as increasing in the two time periods. The 20-year increases were significantly greater than the 10-year increases for each group (Wilcoxin Matched Pair Signed Rank Test). The editors indicated that most likely the celebrity descriptions would be found in the entertainment section; quotable quotes, national news; and literary styles, syndicated columns. Automobiles were selected by 51 as the product most likely associated with brand-name usage.

GAZIANO, CECILIE. Neighborhood newspapers and neighborhood leaders: Influences on agenda setting and definitions of issues. *Communication Research,* October 1985, *12,* 568-594.

Compares neighborhood leaders' agendas and definitions of issues (housing, school, economic development, crime) with those of two neighborhood newspapers and neighborhood residents. Interviews were conducted with 52 leaders of neighborhood organizations and with a random sample of neighborhood residents (68% of 230 adults completing the interviews). The total number of the selected issues mentioned by each group was compared with newspaper coverage of these issues. Leaders' agendas and definitions corresponded relatively high with those of residents. The newspapers' agendas and definitions were much less related to those of residents. Leaders were especially attuned to the concerns of the most educated residents.

RIFFE, DANIEL; SNEED, DONALD; & VAN OMMEREN, ROGER. How editorial page editors and cartoonists see issues. *Journal Quarterly,* Winter 1985, *62,* 896-899.

Contrasts newspapers cartoonists' views with those of editors on political, social, economic, ecological, defense, and foreign issues and their perceptions and views of the papers' positions. Questionnaires were sent to 180 editorial cartoonists (55% response) and 160 editors (42% response). They responded to six Likert-type items with five options ranging from "very liberal" to "very conservative." Cartoonists viewed themselves as significantly more liberal than they thought their editors saw the paper on each type of issue. Both groups perceived each other's views as conservative. Only on economic and defense issues were significant differences found in their opinions.

MERRON, JEFF, & GADDY, GARY D. Editorial endorsements: Bias in coverage of Ferraro's finances. *Journalism Quarterly,* Spring 1986, *63,* 127-137.

Examines the first page of 26 Wisconsin newspapers for evidence of bias in the coverage of Ferraro's finances and of the 1984 Republican and Democratic conventions. Headlines were scored according to their type and length in three groups of newspapers: those endorsing Mondale, those endorsing Reagan, those remaining neutral. No evidence of bias was found in the coverage of the candidate's finances as there was reasonable consistency across the three groups in these stories. They did not differ significantly according to political affiliations. Some bias was found in the convention coverage.

MINTZ, ERIC. Newspaper advertisements in Canadian election campaigns. *Journalism Quarterly,* Spring 1986, *63,* 180-184.

Examines 57 political advertisements of the Canadian National Liberal and Progressive Conservative parties to determine kinds of appeals made by incumbents and challengers. The content of the ads was classified as involving positive and negative presentation of the past records of parties in government, personal qualities of leaders, characteristics of the parties, policies proposed. Past governing records of the parties were found in a majority of the ads. Nearly two-thirds included a pictorial depiction of party figures. Although two-fifths of the advertisements contained some reference to party policy proposals, few provided comparisons between the issue positions favored by each party. It was concluded that those advertisements did not provide meaningful issue information to voters.

EYAL, CHAIM H. Newspaper political advertising and news in the 1984 Israeli elections. *Journalism Quarterly,* Autumn 1985, *62,* 601-608.

Compares issues emphasized in newspaper political advertising with those in news reports, compares the selection and emphasis of issues by different party blocks, and determines whether campaign issues were real and non-issues. All political advertisements and front-page news appearing in two Israeli dailies were coded. Political advertising variables included position in paper, size in column inches, and topic; news measures included front-page positioning, size in column inches, and nature of the content. An inverse correlation (Spearman rank) was found between the overall advertising and news content. About 40% of the various topics were dealt with by both news and election advertising. The most salient news issues were the economy, the election story, the war in Lebanon, and foreign news. Statistical tests revealed only a few significant relationships among issues stressed by the party blocks. Slightly more real issues than non-issues were found in the political advertising.

ROSER, CONNIE, & BROWN, LEE. African newspaper editors and the New World Information Order. *Journalism Quarterly,* Spring 1986, *63,* 114-121.

Analyzes attitudes of journalists of developing African nations concerning the New World Information Order. A total of 42 responses from 20 countries to 10 topics on a questionnaire were evaluated. These attitudes were compared to several socialization factors. The predominance of responses came from the Republic of South Africa and other former British colonies. Several inconsistencies were pointed out in the results. The editors favored a balanced flow of news between the North and South but also a free flow of news. Newspapers should be able to publish what they want to about other countries but be regulated by an international right of correction. Economic and political factors rather than education and training were the strongest indicators of editors' views about the New World Information Order.

III-12 History of magazines

PRICE, THOMAS J. The changing nature of *Foreign Affairs:* 'The most influential periodical in print.' *Journalism Quarterly,* Spring 1986, *63,* 155-160, 187.

Analyzes 3,006 articles that appeared in *Foreign Affairs,* a Council on Foreign Relations publication, and its supplements between 1922 and 1980. Each article was categorized in one of three geographical areas, author's occupational settings, theoretical and experience occupations, residential settings, and length and average page length. While some regional bias towards Europe existed in the early decades, the journal has recently shifted to a more accurate and balanced presentation of world politics. The length of the articles increased as the theoretical authors became more numerous. At its inception the journal emphasized the experienced perspective. In places of residences of the writers, the journal has become more parochial and less cosmopolitan.

RADENCICH, Marguerite C. Two centuries of U.S. magazines for youth. *Journal of Reading*, March 1986, *29*, 495-505.

Summarizes the history of American magazines for children and adolescents from the mid-eighteenth century through the present time. Included in the report are names and descriptions of magazines, names of editors and writers, reasons for the popularity and/or the demise of the magazines, and brief remarks about their content.

III-13 Magazine publication

CHRIST, WILLIAM G., & JOHNSON, SAMMYE. Images through *Time:* Man-of-the-Year covers. *Journalism Quarterly*, Winter 1985, *62*, 891-893.

Analyzes 58 Man-of-the-Year *Time* magazine covers published between 1927 and 1984 to determine characteristics of persons depicted. Five of the covers were considered generic since they did not highlight a specific person. Of the 89 persons coded, 72 were males; 16 nationalities were represented. Excluding generic covers, 83 persons were shown with the mean age being 54. The occupations of those portrayed varied.

BURRISS, LARRY L. Accuracy of news magazines as perceived by news sources. *Journalism Quarterly*, Winter 1985, *62*, 824-827.

Studies interviewees' perception of the accuracy of news magazine stories in which they are quoted. Quotations made by ordinary people found in *Time* and *Newsweek* between December, 1983, and March, 1984, were checked. Of the 79 people selected to be interviewed, 63 were contacted. Eleven (17.5%) felt their quotations were taken out of context, but fewer than half felt the quotation was inaccurate. Being taken out of context was the only inaccuracy reported by the subjects. Quotations perceived as accurate averaged 28.7 words; those as inaccurate, 11.0 words. No significant difference was found between the magazines concerning the accuracy of the quotations.

SCHORIN, GERALD A., & VANDEN BERGH, BRUCE G. Advertising's role in the diffusion of Country-Western trend in the U.S. *Journalism Quarterly*, Autumn 1985, *62*, 515-522.

Inquires if advertising helped establish the Country-Western trend or reflected society through a longitudinal study of editorial mentions and advertisements in 308 issues of six magazines published between 1973 through 1983. To determine the degree to which Country-Western content in 70 ads preceded, appeared concurrently with, or followed the reports of the trend in magazine editorial content, three correlation coefficients (Pearson's product-moment) were computed. The results showed that advertising neither set nor followed the Country-Western trend but appeared to mirror the trend almost as it occurred.

III-14 History of print

JOYCE, WILLIAM L.; HALL, DAVID D.; BROWN, RICHARD D.; & HENCH, JOHN B. (Eds.). *Printing and Society in Early America*. Worcester, MA: American Antiquarian Society, 1983.

Brings together a series of papers all dealing with how the world of print changed between the eighteenth and nineteenth centuries and how the changed world both shaped and reflected the larger American culture surrounding it. Originally there was a scarcity of print, but this was replaced by an abundance. A change occurred in reading that was at first centered upon intensive scrutiny of a small number of religious or moral materials to that charac-

terized by the sampling of a wide range of material which was increasingly secular. In part, the Revolutionary War acted as a catalyst by creating a demand for news and newspapers. The rapid change in public events during the Revolutionary era and the many pamphlets distributed then promoted a taste for extensive reading. The new interest in reading caused a leveling up of society, and the extensive reading pattern of the elite few became a model for the republican many. Whereas the colonial market could support printers only in port towns and political capitals, after independence printing flourished in many interior towns. The period of limited access to print helped to reinforce a cohesive, deferential society, whereas the growth of print led to a wider range of individual taste in print as well as an increasingly competitive, atomized society.

III-15 Book publication

MANN, PETER. *From Author To Reader: A Social Study Of Books.* London and Boston: Routledge & Kegan Paul, 1982.

Examines aspects of the adult book trade and library borrowing in Britain in the context of examining the processes involved between the writing of a book and the reading of it. In the chapters concerned with publishing, bookselling, and the lending and borrowing of books, use is made of data from a variety of sources, including some of the author's own research. Among topics covered are publishers' financing, trends in book sales, the nature of library borrowing, profiles of library users, and the reasons readers choose certain books.

CHRISMAN, MIRIAM USHER. *Lay Culture, Learned Culture: Books and Social Change in Strasbourg, 1480-1599.* New Haven, CT: Yale University Press, 1982.

Examines the book publication in the city of Strasbourg in an attempt to discover the range of ideas available. The study indicated that two distinct cultures existed, a Latin culture dominated by the universities and the churches and a vernacular culture with books written in German and published by different printers. At the beginning of the period under study (1480-1599), the clergy was the largest group of readers. However, after 1527, there was a sharp drop in publications for the clergy, and eventually it became the smallest group of readers. Scholarly readers grew in importance, with books for the professional market also growing in numbers. Reading was not limited to scholars and the educated. The author hypothesizes that there was a relatively high literacy rate among the urban population and that they read a variety of books. At the same time it is noted that few ideas circulated among the whole community. Rather, the diffusion of ideas took place among specified groups. It is suggested that reading may even have helped to break down the cohesion of urban life and contributed to the creation of a more diversified society.

RANDOLPH-ROBINSON, BRENDA. The depiction of South Africa in U.S. textbooks. *Interracial Books for Children Bulletin,* 1984, *15*(7 & 8), 3-13.

Analyzes 17 world history and world geography books and two other books focusing on Africa, all published between 1979 and 1983. Most were flawed by having contents that are misleading, inaccurate, or racist. Definitions of *apartheid* are inaccurate, and discussions of South Africa's development are separated from discussions of apartheid. Pictures rarely depict the actual living conditions of the majority of the people; language is often offensive. Centuries of African history prior to European settlements are ignored. The protests of victims of white oppression were ignored with little attention given to South Africa's police state. No statistics or tables are included in the report.

III-16 Juvenile literature

AMIES, MARION. Amusing and instructive conversations: The literary genre and its relevance to home education. *History of Education*, June 1985, *14*, 87-99.

Surveys a sample of juvenile books, published between 1782 and 1869 in Europe, to establish conventions used by writers of the conversation genre, started by Antoine Pluche. An analysis of his books and later writers revealed that this form of literature included an extensive introduction justifying the choice of the conversation mode and a rationale for the dialogues taking place. Situations in the child's environment were first treated and were then placed in larger patterns of nature. From 1770 to 1830 increasing stress was placed on truth, religious morality, and the acquisition of useful skills and information. The conversations allowed for a spontaneous interchange in which both pupils and teachers asked questions and advanced opinions. The works of three colonial writers were discussed, and brief implications were suggested for the use of the conversations in home education.

KLEIN, GILLIAN. *Reading into Racism: Bias in Children's Literature and Learning Materials*. London, England: Routledge & Kegan Paul, 1985.

Discusses and reviews numerous aspects of the issue of bias in children's reading materials. Research literature is cited. The author contends that the bulk of materials used by children remain heavily biased. Chapters are devoted to bias appearing in fiction, in materials for world studies, in reading texts, and in other curriculum materials. While the focus is particularly on racist bias, examples are also given of sexist bias in materials used by children in schools. An extensive bibliography is presented. Also given are recommendations for needed changes.

JALONGO, MARY RENCK, & RENCK, MELISSA ANN. Sibling relationships: A recurrent developmental and literary theme. *Childhood Education*, May/June 1985, *61*, 346-351.

Focuses on three themes of sibling relationships and their subdivisions as they related to social/psychological research and quality books for children. The main categories of sibling relationships investigated were resentment of a new baby, competition between/among brothers or sisters, and siblings' prosocial behavior.

III-17 Censorship and freedom of the press

DICK, JUDITH. Not in our Schools?!!! School Book Censorship in Canada: A Discussion Guide. Ottawa: Canadian Library Association, 1982.

Examines ways in which censorship of books used in schools occurs in Canada. Sources of information about school book controversies are chiefly newspaper and journal articles, with heavy emphasis on the province of Manitoba. Issues examined include how school books are chosen, the "offensive" aspects of school materials, the people involved in school book controversies, and the authorities' responses to challenges to certain school books.

JENKINSON, DAVID. Censorship iceberg: Results of a survey of challenges in public and school libraries. *Canadian Library Journal*, February 1986, *43*, 7-21.

Surveys materials that were challenged in Manitoba's school and public libraries between September, 1982, and August, 1984. Nearly two-thirds of the 644 public and private school librarians and almost 85% of the 73 librarians from public libraries responded to a four-page questionnaire. Approximately one in four school libraries and four of every 10 public libraries had at least one item challenged with over half having more than one com-

plaint. The most frequent source of challenges for both types of libraries was parents. Books received the most complaints, especially fiction. When the reasons for complaints from both public and school libraries were combined, "immaturity of readers," "explicit sex," and "profanity" were the ones most often cited. Nearly 88% of the challenged materials in public libraries remained in collections, not always on open shelves. More than half of all school library challenges resulted in the items being removed.

SCHRADER, ALVIN M., & WALKER, KEITH. Censorship iceberg: Results of an Alberta public library survey. *Canadian Library Journal,* April 1986, *43,* 91-95.

Reports the results of a questionnaire completed by 162 Alberta, Canada, librarians concerning the frequency and nature of requests received in 1983 for the removal of materials from the libraries. An average of one challenge every week to remove books was made throughout Alberta (64 occurrences in 32 libraries). Removal requests were about equally divided among children's fiction (21), young adult literature (16), and adult fiction (17). Relatively few requests were for removing nonfiction books. Almost 40% of the requests came from parents. In one out of three cases the impugned book was removed from the shelves. A high proportion of the libraries reported that they do not have a written policy about dealing with controversial materials and community complaints.

SNEED, DON, & STONECIPHER, HARRY W. More freedom for the prison press: An emerging First Amendment issue. *Journalism Quarterly,* Spring 1986, *63,* 48-54, 68.

Reviews court decisions on related issues of freedom of the prison press. While it is clear that inmates do not have an absolute right to publish all materials in a prison newspaper and that the state does not have unbridled authority to regulate content, recent court decisions suggest an emerging First Amendment issue with respect to prisoners' right to freedom of expression in inmate newspapers. No U.S. Supreme Court decision has defined the scope of prisoners' First Amendment rights with respect to censorship of material. No definitive ruling has been made which outlines under what conditions material is considered dangerous to prison administration, discipline, or authority.

WALDEN, RUTH. Editorial rights, constitutional restraints of editors of state-supported newspapers. *Journalism Quarterly,* Autumn 1985, *62,* 616-625.

Summarizes current status of rights and obligations of government editors, as reflected in judicial responses to both official censorship of student newspapers and public challenges to the decisions of all types of government editors. Whether student editors are performing editorial or custodial functions determines what constitutional rights are involved.

RYAN, MICHAEL, & MARTINSON, DAVID L. Attitudes of college newspaper advisers toward censorship of the student press. *Journalism Quarterly,* Spring 1986, *63,* 55-60, 88.

Asks college publication advisers their opinions regarding different aspects of censorship of campus newspapers. Mail survey questionnaires were completed by 119 people. They indicated the extent to which they agreed or disagreed with attitude statements about student press censorship and provided information about their newspapers and themselves. They stated that it is more important for the student-press to be censorship-free than for the university to be protected from possibly damaging statements (81%), that a newspaper should publish a story it can prove even if the institution is embarrassed (94%), and that articles critical of the faculty should not be suppressed (95%). No significant differences were found in the responses for age, sex, highest degree earned, and years of media, teaching, and advising experience. Other findings are included in the report.

PHIFER, GREGG, & KING, THOMAS R. Censoring ('editing') the comics. *Journalism Quarterly*, Spring 1986, *63*, 174-177.

Records all comic strips eliminated from one newspaper during a year and checks with other papers to determine what had been omitted. The editor discussed his reasons for not publishing 35 strips, most of which were derogatory of women. Pro and con reader reactions were included. Some viewed the omissions to be examples of censorship; the editors viewed the situation as an example of editing.

III-18 Effects of reading

RYSTROM, KENNETH. The impact of newspaper endorsements. *Newspaper Research Journal*, Winter 1986, *7*, 19-28.

Studies newspaper endorsements of 51 California newspapers and the election returns of statewide elections, 1970-80, to determine the effects of those endorsements on readers. Newspapers were grouped by circulation size, ownership (independent, group-owned), and political emphasis (liberal, middle-of-the-spectrum, conservative). Comparisons were made of the results for propositions by subject matter, and the effects of liberal and conservative endorsements. Chi square was used to test the significance of the differences. The overall impact of the endorsements was minimal; they produced the greatest effect on primary election measures and on the least controversial issues. Independent papers seemed to have had more impact than group-owned papers and smaller papers more than larger papers. Endorsements had the least effect on candidate races and on noneconomic, ideological issues.

ST. DIZIER, BYRON. The effect of newspaper endorsements and party identification on voting choice. *Journalism Quarterly*, Autumn 1985, *62*, 589-594.

Compares the effect of newspaper endorsements with that of party identification on voting behavior in a low-information campaign. The 261 subjects from 13 college class sections were divided into three treatment groups nearly equal in size. At three different times each group voted for a candidate in a hypothetical state senate election. In the first treatment, all received identical information about the candidates and stated their sex, their political party preference, and the candidate they favored. The first group (control) received little additional information during the next two treatments. During the second treatment, Group II read an editorial favoring one candidate while Group III learned the party affiliations of each candidate; the information given in the third treatment was reversed for Groups II and III. After the first treatment there was a nearly even split in the votes. The greatest shifting of votes occurred when subjects read newspaper endorsements and not when they learned the candidates' political affiliation. Little change was found in the voting of the control group.

COUNTS, TIM. Effect of endorsements on presidential vote. *Journalism Quarterly*, Autumn 1985, *62*, 644-647.

Correlates community variables, especially newspaper endorsements, to voting outcomes in the 1948 and 1960 presidential elections. Data were complete for 22 cities in 1948 and for 26 in 1960. Zero order correlations between each of the independent variables (party registration, home ownership, population per square mile, population change, editorial endorsements) and the dependent variable (percentage of votes received by Republican and Democratic candidates) were followed by regression analysis. Significant relationships for 1948 were found between voting percentages and resident ownership, Republican party registration, and newspaper endorsement. For 1948 significant relationships resulted between voting percentages and Democratic party registration and resident ownership. Data for the study were obtained from selected yearbooks.

FEDLER, Fred; SMITH, RON F.; & COUNTS, TIM. Voter uses and perceptions of editorial endorsements. *Newspaper Research Journal,* Summer 1985, *6,* 19-23.

Inquires about voters' use and perceptions of endorsements made by the only daily newspaper in Orlando, Florida. Six adults, trained as interviewers, questioned voters as they left the polls on the day of the 1984 presidential election. They completed 426 interviews of the 562 voters who were stopped. Forty-seven percent considered editorial endorsements very or somewhat helpful; 33.8% could name one candidate endorsed by the paper; 23% considered endorsements to be helpful. Some insisted that the endorsements did not help them; others were critical of the endorsement process. The subjects felt that the endorsements were more helpful in local than in national elections and for issues rather than for individuals.

GANDY, JR., OSCAR H., & WAYLLY, MOHAMMED EL. The knowledge gap and foreign affairs: The Palestinian-Israeli conflict. *Journalism Quarterly,* Winter 1985, *62,* 777-783.

Determines the relative importance of education, media use, and interest as functions of ethnic identification in predicting differential knowledge of foreign affairs. In telephone interviews, 218 Washington, D.C. households (23%, black; 22%, Jewish) were asked about the foregoing factors as well as about the Palestinian/Israeli conflict. Regression analyses were used to isolate the simultaneous effects of race, ethnicity, and media use. Educational attainment was the dominant factor in determining exposure to information about the conflict. Newspaper use was relatively more important than television news and public affairs program viewing as predictors of exposure and knowledge.

PERRY, DAVID K. The mass media and inference about other nations. *Communication Research,* October 1985, *12,* 595-614.

Examines the influence of news about foreign countries on the accuracy of people's inferences concerning both Third World and more developed countries. The 109 college students made inferences about African or European nations after receiving experimental booklets containing either or both relevant or unrepresentative information. Data were analyzed using the method of planned comparisons and one-tailed statistics. Those who read an unrepresentative news story made less accurate judgments about a protypical European or African country than did subjects who read no story. More accurate inferences were made about a developed than a developing nation.

ATWATER, TONY; SALWEN, MICHAEL B.; & ANDERSON, RONALD B. Media agenda-setting with environmental issues. *Journalism Quarterly,* Summer 1985, *62,* 393-397.

Questions whether three large daily circulation newspapers transfer their subissue agenda priorities (component parts of a larger issue). All nonadvertising content related to environment in the front sections of the newspaper was analyzed and measured over a two-month period. Each of the 130 stories were categorized into six subissue classifications. Telephone interviews were conducted with 304 subjects to determine how they personally regarded each subissue and how important they perceived the news media to regard each issue. Each level of salience was measured on a 0-10 scale. Subissues were ranked by Spearman-rho rank-order correlation. The media and perceived-media agendas correlated at .84 ($p < .05$), but the correlations between media subissue agenda and the interpersonal agenda (.54) and the intrapersonal and media agendas (.67) were not significant.

VIERKE, SCOTT, & DUNCAN, DAVID F. A comparison of two media for conveying health information to residence hall students. *College Student Journal*, Fall 1985, *19*, 280-282.

Compares the effects of reading posters and advertisements in a campus newspaper concerned about health benefits of exercise. The use of a time-sampling design in two dormitories allowed comparison of four media conditions: no media, posters only, newspapers only, and both posters and newspaper. Eighty college students in interviews divided into the four conditions gave their reactions to the posters and/or the advertisement and answered factual questions. No significant differences were found among the media concerning knowledge about exercise. More students read the posters than the advertisements. Students previously exposed to the posters were more likely to read the advertisements than those not previously exposed to posters.

WILCOX, GARY B.; MURPHY, JOHN H.; & SHELDON, PETER S. Effects of attractiveness of the endorser on the performance of testimonial ads. *Journalism Quarterly*, Autumn 1985, *62*, 548-552.

Examines the effectiveness of endorser attractiveness in testimonial advertisements for two different types of products. A 3 x 2 x 2 experimental design was used which required the selection of six models and two print advertisements. The three independent variables were physical attractiveness of the product endorser, the type of product advertised (bath soap/stereo turntable), and the sex of the endorser. The 12 advertisements with identical layouts were individually placed within a five-page booklet to simulate a magazine environment. After exposure to one of the booklets, the 245 undergraduate subjects completed a questionnaire evaluating the advertisements. The attitude measures focused on cognitive (awareness, comprehension, knowledge), affective (evaluation, liking), and conative (action tendency) attributes. Subjects also rated the physical attractiveness of the advertisement model. Through analysis of variance it was found that the attractiveness of the endorser significantly affected the affective and conative scores but was unrelated to the cognitive scores. The product unrelated to attractiveness (turntable) was rated higher than the soap. Female subjects tended to rate male models higher than male subjects did, but no significant difference was noted for female models.

III-19 Reaction to printed material

FRY, DONALD L., & SIGMAN, STUART J. Newspaper language and readers' perceptions of news events. *Newspaper Research Journal*, Spring 1984, *5*(3), 1-11.

Analyzes the language use of two London daily newspapers, the *Sun* and the *Morning Star*, reporting the same event (violence and rioting at a summer carnival), and evaluates the impact of each account on readers' perceptions of the event. A linguistic analysis provided comparisons of the texts for attribution of causality, and for labelling agents and objects of action. The *Sun*'s report had more transactive clauses and therefore a greater concentration of expressions of causal relations. In addition, the *Sun* treated the groups of youths as the most active participants, as opposed to police or other carnival goers, and described the youths as mobs, gangs, and thugs. The *Morning Star* mentioned only one transaction between the youths and the police, treated the police as the most active agent, deemphasized causal relations, and described the youths as "groups of youngsters." Two hundred and four university students enrolled in an advanced communications class were randomly assigned to read one of the two accounts and respond to a series of questions. Responses to 10 semantic differential and 42 Likert-type items were designed to assess the readers' perceptions of the major participants in the event as well as their perceptions of responsibility for the violence and the role of racial differences in the violence. Results indicated significant differences in the perceived

activity of the young people in the predicted direction. In addition, readers of the *Sun* perceived the event as significantly more tense and violent, while readers of both accounts placed more responsibility on the groups of youths for the violence. The researchers concluded that both the structure of information and an audience's predisposition toward an event affects perceptions of the news event.

BELTRAMINI, RICHARD F., & EVANS, KENNETH R. Perceived believability of research results information in advertising. *Journal of Advertising*, 1985, *14*(3), 18-24.

Assesses five characteristics found by advertising research to influence consumer believability of research into product performance claims. The five characteristics included: the size of the sample, the nature of the sample, documentation as to who conducted the research, the qualitative versus quantitative nature of research results, and the magnitude of the claim difference. A total of 5,000 questionnaire booklets were mailed to a sample of recent automobile registrants. Questionnaires contained a mock-up advertisement along with a 10-item perceived believability scale. To assess different characteristics, 44 experimental advertisements were prepared. There were 1,994 useable returns. A smaller sample (10 experts agreed) was perceived as more believable than a larger sample (100 experts agreed). No significant differences were found between ads characterized by results based on consumers' reactions versus reactions of experts. There were no significant differences in believability of ads characterized by research results reported to have been conducted by an independent testing agency versus ads with no such claim documentation. Ads containing qualitatively oriented research results were perceived as more believable than those containing quantitatively oriented results. The magnitude of a claim difference affected perceived believability. Off-decile results (32 to 14) were more believable than on-decile results (30 to 10).

BERNSTEIN, JAMES M. The public's view of newspaper accountability. *Newspaper Research Journal*, Winter 1986, *7*, 1-9.

Questions how newspaper readers exposed to an ambudsman program and a newspaper criticism column perceive the newspapers' accountability. Telephone questionnaires were administered to 393 residents of Louisville where newspapers have both features. Accountability was determined by scores on a nine-item fairness factor. Analysis of variance showed no significant differences among four news criticism readership groups, thus showing that the perception of accountability was the same across all levels of news criticism column readership. Significant differences among three levels of awareness of the ambudsman program and their perception of accountability were found; those who said they were aware of the program and could describe it scored higher on the accountability scale than those in the other two groups.

IV. Physiology and psychology of reading

IV-1 Physiology of reading

VOHR, BETTY R., & COLL, CYNTHIA T. GARCIA. Neurodevelopmental and school performance of very low-birth-weight infants: A seven-year longitudinal study. *Pediatrics*, September 1985, *76*, 345-350.

Studies the changing patterns of neurologic and developmental functioning between the ages of one and seven of 42 low-birth-weight babies born in 1975. These babies were from a group of 121 babies with a birth weight less than 1500 grams. Of the 121, 70 survived the first eight weeks and 8 more died before their first birthday. The 62 survivors were en-

rolled in a follow-up program at age 1 year, of whom this sample of 42 completed all follow-up evaluations at ages 3 to 4, 5, and 7. On the basis of a neurological assessment at age 1 year, 22 of the infants were classified normal, 12 suspect, and 8 abnormal. At 3 to 5 years, the *Stanford-Binet Intelligence Scale* was administered. At age 7, neurologic and motor performance were assessed. Also administered were the Stanford-Binet, the *Beery Visual-Motor Integration Test*, the WRAT, and selected subscales of the WISC-R. ANOVA was used to analyze changes from age 1 to 7 and the differences between the normal, suspect and abnormal groups at age 7. On the neurologic, motor and intelligence measures, the abnormal group scored significantly lower than the normals. The majority of the normal group (20 of 22) had age-appropriate WRAT reading scores and an average IQ of 106. But 7 of the 12 suspects and 4 of the 5 abnormal children had reading difficulties. All abnormal children had inefficient visual perceptual motor skills, and their average IQ was 86. Of the total sample, 54% had received special education, with the abnormals needing significantly more. Concludes that the neurologic classification at age 1 was valid, and can be useful for alerting school personnel to potential academic difficulties.

LEONG, CHE KAN; WONG, STEPHEN; WONG, ANGIE; & HISCOCK, MERRILL. Differential cerebral involvement in perceiving Chinese characters: Levels of processing approach. *Brain and Language*, September 1985, *26*, 131-145.

Reports the results of three visual half-field experiments designed to assess accuracy and latency of recognizing single Chinese characters as the task was varied from shallow to deeper levels of processing. Subjects were 24 native right-handed Chinese university students. Experiment 1 was a lexical decision task in which subjects had to identify, on the basis of overall configuration, real Chinese characters. Results found performance for left and right visual half-field (VHF) stimuli comparable. Experiment 2 required phonological processing. A significant right VHF effect was found for accuracy but not latency. Experiment 3 required semantic processing. Again, the main effect for VHF was significant for accuracy but not for latency.

PARKIN, ALAN J., & WEST, SOPHIE. Effects of spelling-to-sound regularity on word identification following brief presentation in the right or left visual field. *Neuropsychologia*, 1985, *23*(2), 279-283.

Tests the hypothesis that the regularity effect in word recognition should occur only when processing takes place in the left hemisphere. Regularity effect is the term used to describe the effect observed in previous research that words with regular spelling-to-sound correspondences are recognized more rapidly and accurately than irregular words. Irregular words were defined as low-frequency words with unique or unusual spelling-to-sound correspondences (e.g., monk). Irregular words with high frequencies were not used, as the regularity effect does not affect these words. Subjects were 16 British, right-handed university students. The stimuli, 32 irregular and 32 regular words written in a vertical format, were briefly presented in the right or left visual field on a CRT. The dependent variable was the number of words recognized correctly. Using 2 x 2 ANOVA, it was found that significantly more regular words were recognized in the right visual field than irregular words, but for words presented in the left visual field, there were no significant difference between regular and irregular words. Overall, more words were recognized correctly in the right visual field than in the left visual field. Interprets these findings as consistent with the view that the right hemisphere is not capable of generating phonology.

NEWMAN, S.P.; KARLE, H.; WADSWORTH, J.F.; ARCHER, R.; HOCKLY, R.; & ROGERS, P. Ocular dominance, reading and spelling: A reassessment of a measure associated with specific reading difficulties. *Journal of Research in Reading*, September 1985, *8*, 127-138.

Examines the relation between a new test of ocular dominance and intelligence and reading and spelling ability. Subjects were 323 children from a variety of British schools. Their mean age was 8.5 years. The test of ocular dominance used requires the child to view two macular fusion slides through a synoptophore. The strategy of this test is for the child to adjust the different images perceived by the left and right eye until one fused image appears. At this time, the tubes of the synoptophore separate and the child's eyes diverged to retain fusion. The dominant eye was then determined by asking the child to state which image appeared to move. The test was repeated 10 times, and if the child reported the same results on 8 or more of the tests, a fixed or dominant eye was determined. Children who failed to report the same results at least 8 times were determined to have unfixed dominance. All subjects were also administered the WISC-R, the *Schonell Graded Word Spelling Test* and *Graded Word Reading Test* and the *Neale Test*. No child with an IQ score of less than 90 was included. Unfixed dominance was found in 158 of the subjects; 165 were found to have fixed dominance. Results were presented in percentages of children scoring at certain levels on each of the tests of intellectual and academic abilities. Data were analyzed with chi-square analysis. Eye dominance was not associated with performance on verbal or performance on IQ scores or any of the tests of academic achievement. The authors conclude that the role of eye dominance tests in the diagnosis is questionable.

BESNER, DEREK; SNOW, DOUG; & DAVELAAR, EILEEN. Logographic reading: Is the right hemisphere special? *Canadian Journal of Psychology*, March 1986, *40*, 45-53.

Tests, in two experiments, the hypothesis that logographic scripts are processed relatively better in the right hemisphere than is an alphabetic script. The 16 subjects in each experiment were right-handed college students. Stimuli in Experiment 1 were eight Arabic numerals and eight uppercase English letters. Stimuli in Experiment 2 were six slightly different numerals and letters. Stimuli were presented on a CRT, 4.9 degrees to the left or right of a central fixation cross. Subjects were to name the stimuli as quickly as possible, the dependent variable being response latencies. In both experiments, letters were identified more rapidly in the right visual field. Further, there was no significant interaction between script type and visual field. Concludes that the data do not support the hypothesis that logographic and alphabetic scripts are differentially represented and/or processed in the two hemispheres.

REGARD, MARIANNE; LANDIS, THEODOR; & GRAVES, ROGER. Dissociated hemispheric superiorities for reading stenography vs print. *Neuropsychologia*, 1985, *23*(3), 431-435.

Tachistoscopically presents real words and pronounceable pseudowords written in shorthand to 24 adult stenographers. The stimuli consisted of 48 cards, each containing a pair of short, common words. Half the cards contained one real word and one pronounceable nonsense word; the other half contained two pronounceable nonsense words. All words were written in the Stolze-Schrey stenography system, a nonorthographic shorthand system commonly used in German-speaking countries. In Experiment 1, the stimuli were presented in handwritten form. In Experiment 2, the stimuli were presented in lower-case print. In both experiments, stimuli were presented in a two-channel tachistoscope at two exposure speeds.

The subjects' task was to press a button upon the recognition of a meaningful word. The dependent variable was percent of correct responses. Handwritten stimuli were recognized with fewer errors at the lower speed in the right visual field, but at the higher speed there were fewer errors in the left visual field. For stimuli presented in print, the strong right visual field effect was maintained at both speeds. Concludes that the right-hemisphere word recognition processes were activated. Suggests that nonorthographic and syllabic-orthographic stimuli be used to investigate different hemispheric reading processes.

POLICH, JOHN. N400s from sentences, semantic categories, number and letter strings? *Bulletin of the Psychonomic Society*, September 1985, *23*, 361-364.

Examines the N400 component of the event-related brain potential (ERP) using 12 paid adult subjects. Stimuli presented were of four types: sentences, semantically related, words, numbers, and letters. Each type consisted of a series of seven items. Half of each series ended appropriately, and half ended anomalously. Additionally, two different type sizes were presented in each stimulus condition. Subjects read materials presented on a cathode ray tube and were to indicate whether a series ended oddly or normally. EEG data were recorded. N400 components were found for all odd-ending series. Large-type endings tended to give a large P300 component which followed and mitigated the preceding negativity effects. While different ERP patterns were noted across stimulus and ending types, the N400 was obtained with a variety of stimuli and was followed by a P300 when an explicit categorization of the eliciting stimulus was required.

KOK, A., & ROOIJAKKERS, J.A.J. Comparison of event-related potentials of young children and adults in a visual recognition and word reading task. *Psychophysiology*, January 1985, *22*, 11-23.

Describes differences in the event-related potentials (ERP) of young children and adults. ERPs of a group of preschool children (aged 5 to 6) were compared with ERPs of a group of young adults (aged 20 to 32). Both groups performed a word-reading task (WRT) and a non-verbal picture-recognition task (PRT). On the WRT, subjects were instructed to read aloud words which were either intact or degraded. In the PRT, subjects were told to keep a running count in their heads of the number of times one of two highly familiar figures were presented. ERP waveforms of the two groups were measured at lateral temporal and parietal electrode locations. Principal components analyses (PCAs) were performed on the averaged ERPs in two different ways: 1) separately for each of four combinations of tasks and age groups, and 2) separately for each age group pool across tasks. The results demonstrated that ERP components of children and adults differed both qualitatively and quantitatively. Children's ERPs were characterized by a long-latency negative component (N500) and a slow positive wave (SW) component, and adults' ERPs were characterized by two late positive components (P340 and SW respectively). Second, both children and adults showed an earlier positive component that varied in peak latency between 280 ms for children and 240 ms for adults. In addition, adults showed a marked increase in SW positivity in the word-reading task as compared with the picture reading task, while task effects were less manifest in the components of children. The results supported the notion that children and adults differ in speed as well as in their processing mode under the different task requirements.

LICHT, ROBERT; KOK, ALBERT; BAKKER, DIRK J.; & BOUMA, ANKE. Hemispheric distribution of ERP components and word naming in preschool children. *Brain and Language*, January 1986, *27*, 101-116.

Records event-related potentials (ERP's) during a word-naming task and looks at their relation to rate of reading acquisition. Seventy-four Dutch children, ages 5.1 to 6.2, were individually taught to name four monosyllabic three-letter words. In the ERP testing, subjects were required to read the same four words when presented in normal print and degraded

versions. An ANOVA of vocal response times showed that degraded words were associated with longer response times than normal words. ERP's were recorded at left and right temporal and parietal sites. A principal component analysis conducted on the averaged ERP waveforms yielded five factors. ANOVA found that rate of reading acquisition was associated with some of the ERP components. Regression analyses revealed that right rather than left hemispheric processes were related to reading acquisition in the beginning readers.

CHIARELLO, CHRISTINE. Hemisphere dynamics in lexical access: Automatic and controlled priming. *Brain and Language*, September 1985, *26*, 146-172.

Reports the results of six visual half-field lexical decision experiments to investigate laterality effects for automatic and controlled priming. Subjects in all studies were undergraduate college students. In Experiments 1-3, the controlled priming series, there was a high probability that prime and target words would be related. Subjects were also informed of the type of prime-target relationships and encouraged to use the prime as a predictor of the upcoming target word. Characteristics of the prime word (orthographic, phonological, or semantic) were manipulated to measure directed lexical access. Results found that larger priming was obtained for orthographically similar stimuli when presented to the left visual field. Priming based on phonological relatedness was equally effective in either visual field, whereas semantic similarity produced larger priming for right visual field stimuli. In Experiments 4-6, the automatic priming series, there was a low probability of a prime-target relationship. In addition, subjects were instructed to treat the primes as nonspecific warning signals and were not informed of any predictive value. These conditions were designed to measure lexical organization. Analyses found priming was restricted to left visual field stimuli for orthographically similar words, while priming for phonologically related stimuli was only obtained in the right visual field. Semantic priming was present bilaterally but was larger in the left visual field.

BOLES, DAVID B. The effects of display and report order asymmetries on lateralized word recognition. *Brain and Lanuage*, September 1985, *26*, 106-116.

Reports the results of two studies which investigate the effects of orientation, letter, and report order asymmetries on word recognition. In Experiment 1, 20 right-handed undergraduates were required to fixate on a symbol presented on a CRT and then identify words and symbols presented laterally. A four-factor ANOVA design was used consisting of visual field (left vs. right), orientation (horizontal vs. vertical), word set (uppercase symmetric vs. lowercase asymmetric vs. uppercase asymmetric), and report order (symbol-word vs. word-symbol). Significant main effects were found for visual field, favoring the right; for orientation, favoring the horizontal; and for word set, favoring uppercase asymmetric words. Experiment 2 followed basically the same procedures but used only uppercase words presented vertically. A third word set consisting of asymmetric words presented in mirror image was introduced. Again, significant main effects were found in favor of the right visual field and asymmetric words but no significant interactions were found. Overall, the results suggest that words are better recognized in the right visual field.

YOUNG, ANDREW W., & ELLIS, ANDREW W. Different methods of lexical access for words presented in the left and right visual hemifields. *Brain & Language*, March 1985, *24*, 326-358.

Investigates, in eight experiments, the effects of word length on visual hemifield asymmetries for word recognition when the imageability, pronounceability, and frequency of the words were controlled. Subjects in all experiments were right-handed adults, with 12 to 48 subjects per experiment. Stimuli were presented bilaterally with a two-field tachistoscope, with one word appearing in the left-visual field (LVF) and a different word in the right-visual field (RVF). For words in the normal horizontal format, word length affected LVF perform-

ance but not RVF. This finding held for words varying in frequency and imageability. Length of pronounceable nonwords did affect RVF performance. Concludes that the results indicate that horizontally formatted words presented to the right cerebral hemisphere can only achieve lexical access by a method that requires the short-term storage of graphemic information.

BRADSHAW, JOHN L.; NETTLETON, NORMAN C.; WILSON, LYN; & BURDEN, VIVIAN. Mirror reading in right and left handers: Are sinistrals really superior? *Brain and Language*, November 1985, *26*, 322-331.

Investigates the mirror reading of schoolchildren and adults in Australia to confirm or refute earlier research suggesting that sinistrals (left-handed preference) are superior to dextrals (right-handed preference). Subjects were 12 dextral (average age 12.10) and 12 sinistral (average age 13 years) boys and girls and 12 dextral and 12 sinistral undergraduates. Subjects read words from the Kucera-Francis list from stimulus sheets, six for each of four versions: 1) normal, 2) right-to-left order, 3) left-right mirror-reversed letters, and 4) right-to-left letter order, with left-right mirror-reversed letters. Up-down inversions of text were also measured. Data were analyzed in terms of mean time per condition and total errors plus passes. A four-way ANOVA (age, sex, handedness, and condition, with repeated measures on condition) revealed statistical significance for sex, condition, and sex x condition. Handedness failed to approach significance. Age was significant on error and pass totals as was condition. Significant interactions were found in the error data, with handedness contributing to three of the four interactions. The researchers concluded that sinistrals were not superior to dextrals at reading mirror or transformed script.

AYLWARD, ELIZABETH HOPPES. Lateral asymmetry in subgroups of dyslexic children. *Brain and Language*, July 1984, *22*, 221-231.

Examines hemispheric dominance in 72 school-identified dyslexic pupils aged 7 to 12, who had been divided by the *Denver Reading and Spelling Test* into three groups: dysphonetics (deficits in symbol-sound integration), dyseidetics (deficits in visual gestalts), and nonspecifics (poor readers with a pattern of reading and spelling errors below their appropriate levels), to test the hypothesis that specific reading disorders are related to patterns of hemispheric laterality. Subjects and 34 control pupils were matched on mean age (110 months), mean IQ (109), and proportion of males to females (3 to 1 ratio). The final sample included 20 dysphonetics, 12 dyseidetics, 20 nonspecific dyslexics, and 20 normal readers. Five tests were administered: *The Quick Test of Intelligence*, the *Denver Reading and Spelling Test*, a dichotic listening test, a hemiretinal viewing task with linguistic stimuli, and a hemiretinal test with spatial stimuli. No main effects were found for reading group on degree or direction of asymmetry for listening or visual-linguistic tasks.

LEONG, CHE KAN. Confessions of a schoolman – on dyslexia and laterality. In Rosemary F. Bowler (Ed.) *Annals of Dyslexia*, Vol. 34. Baltimore, Md.: The Orton Dyslexia Society, 1984, 15-27.

Relates the early work of Samuel Orton on cerebral dominance to the current neuropsychological concept of laterality as reciprocal functions of the two cerebral hemispheres. Discusses the genetic-cultural perspectives of laterality and functional asymmetry in relation to learning disorders. Concludes by stating that a balanced and integrative view of the cognitive contribution of the two hemispheres is needed.

CORBALLIS, MICHAEL C.; MACADIE, LINDY; CROTTY, AMANDA; & BEALE, IVAN L. The meaning of disoriented letters by normal and reading-disabled children. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, November 1985, *26*, 929-938.

Compares the letter-naming abilities of normal and reading-disabled readers. A group of 10 normal readers were matched with 10 reading-disabled students on age, sex, and IQ. All subjects were New Zealand children in the 11- to 13-year-old age range. Errors and reaction times were recorded as subjects were asked to name disoriented letters (F, G, and R) in the left or right visual fields, and in normal or backward orientation. The reading-disabled group made more errors but the difference was not significant. An ANOVA of reaction times found no significant difference between groups, except for the naming of one particular letter. The effect of angular orientation was significant with faster reaction times to normal letters. The differences between visual fields was not significant.

WHARRY, RHODA E., & KIRKPATRICK, SUE W. Vision and academic performance of learning disabled children. *Perceptual and Motor Skills*, February 1986, *62*, 323-336.

Examines differences on academic performance measures among myopic, hyperopic, and emmetropic learning disabled elementary school age children. A total of 439 learning disabled children in one Southeastern school district were identified. Each subject was given an ocular screening device and the WISC-R, the WRAT, Key Math, and the *Durrell Analysis of Reading Difficulty*. Visual classifications were treated as independent variables; academic measures were treated as dependent variables; and sex, race, and age were used as covariates. Separate analyses of covariance were conducted on each dependent variable. Results showed that myopic children outperformed both emmetropic and hyperopic children on the Key Math test. WISC-R performance scores were higher for myopic than hyperopic children, although emmetropic children outperformed the other two classifications. No differences were found among the three refractive error classifications on the WISC-R Verbal scale. Myopics performed better than hyperopics on the WRAT Reading subtest, as well as the Oral Reading Rate, Oral Comprehension, Flashword, and Spelling sections of the Durrell. Ancilliary age-related findings were also found which suggest that myopes have an advantage academically over hyperopes and emmetropes.

LESLIE, SUSAN C.; DAVIDSON, RICHARD J.; & BATEY, ORIT B. Purdue Pegboard performance of disabled and normal readers: Unimanual versus bimanual differences. *Brain and Language*, March 1985, *24*, 359-369.

Examines differences between dyslexics and controls in the unimanual and bimanual conditions of the peg placement section of the Purdue Pegboard Test (PPT). Twenty-three disabled and 23 normal male readers between the ages of 9 and 12 were studied as part of a larger research project on hemispheric interaction in reading disabled and normal children. The groups were screened on a neuropsychological battery. The disabled readers comprised a relatively homogeneous language-disordered subgroup exhibiting deficits in naming. A 2 x 3 ANOVA for balanced groups was performed on the raw scores and on the percentile scores with Group (dyslexic vs. control) and Condition (dominant hand vs. nondominant vs. bimanual) as between- and within-group factors, respectively. A significant main effect was obtained for Condition (favoring right hand) using the raw score data, while a significant main effect for Groups was obtained (favoring normals) using percentile scores. Significant Group x Condition interactions were obtained for both analyses, indicating that dyslexics placed fewer pegs compared with controls in both the dominant ($p < .05$) and nondominant ($p < .01$) conditions. The bimanual condition did not discriminate between the two groups. The

pattern of Pearson product-moment correlation coefficients among the three task conditions differed between disabled and normal readers. Specifically, the bimanual condition was correlated weakly with the unimanual conditions among dyslexics, whereas in the controls, all tasks were highly correlated.

THATCHER, R.W., & LESTER, M.L. Nutrition, environmental toxins and computerized EEG: A mini-max approach to learning disabilities. *Journal of Learning Disabilities*, May 1985, *18*, 287-297.

Identifies a set of environmental and nutritional factors that may affect the way children think and learn. Using the technology of computerized EEG and evoked potentials, called "Neurometrics," developed to apply an accurate and relatively culture-fair technique to the early detection of learning disabilities, the researchers sought to identify those dietary and environmental factors that have an impact on brain development. Over a four-year period approximately 700 children from both rural and urban areas were administered a comprehensive test battery that included: 1) EEG and sensory evoked potentials; 2) dietary evaluations; 3) psychometric tests, including the WISC-R, WRAT, and measures of fine and gross motor development; 4) trace element analyses of hair; 5) neurological histories; and 6) measures of socioeconomic and environmental conditions. The researchers review and summarize results. Experimental data showed a deleterious effect of environmental lead and cadmium on the cognitive functioning of children, affecting performance and verbal intelligence.

BAKER, SIDNEY MCDONALD. A biochemical approach to the problem of dyslexia. *Journal of Learning Disabilities*, December 1985, *18*, 581-584.

Reports a case study on one sixth-grade boy who had been labelled as dyslexic, who responded positively to a biochemical approach which checked both what substances his body was lacking, as well as what substances his body had in excess. Iron, zinc, and vitamin B-6 deficiencies were discovered, as was an imbalance of fatty acids in his system. Nutritional therapy was implemented. When reactions were noted to milk and other dairy products, reductions in these foods were suggested. Improvement was noticed in hair and skin quality, disposition, and reading. A biochemical approach rather than a psychological approach to learning difficulties is proposed.

STEWART-BROWN, SARAH; HASLUM, MARY N.; & BUTLER, NEVILLE. Educational attainment of 10-year-old children with treated and untreated visual defects. *Developmental Medicine & Child Neurology*, August 1985, *27*, 504-513.

Explores the relation between visual defects and educational achievement. As part of the national Birth Cohort Studies, all children born in the United Kingdom between the 5th and 11th of April, 1970, were identified. Aptitude, achievement, social, and health data were collected on each. All children with other than perfect acuity were classified into 10 categories according to the results of acuity tests. Educational and sports scores for children in each category of visual defect were compared with the scores of children who had perfect vision, controlling for sex, social class, and intelligence. Results showed that children with bilateral distant vision defects of 6/24 or worse in both eyes (severely myopic) scored higher in reading than children with no defects. They also scored significantly higher on intelligence tests. Children with bilateral near-vision defects whose distant vision was perfect scored poorly on reading tests. In general, there was no evidence to suggest that visual defects themselves caused children to underachieve.

HELLER, MORTON A. Central and peripheral influences on tactual reading. *Perception & Psychophysics*, March 1986, *39*, 197-204.

Performs a series of seven experiments to identify central and peripheral influences on tactual reading. The first four experiments were done to find out whether tactual reading or Print-on-Palm (POP) reading would be improved by printed letters at different locations.

All experiments used undergraduates as subjects; the number of subjects ranged from 12 to 42. In all experiments, two-, three-, or four-letter words were printed on the palms, wrists, or fingers. Results indicated that tactual reading is influenced by both central and peripheral factors. Positive effects of separation were found in several experiments, thereby supporting a peripheral explanation. However, separation did not help when words were longer than three letters. Central contributions to tactual reading were indicated since categorical information aided reading as did knowledge of constant orientation. Difficulties found in reading POP were felt to be a function of aftersensations derived from drawing a point across the skin.

RAYNER, KEITH. Eye movements and the perceptual span in beginning and skilled readers. *Journal of Experimental Child Psychology,* April 1986, *41,* 211-236.

Reports four experiments that examined size of the perceptual span in six second-, fourth-, and sixth-grade children and six adult skilled readers. All the school-age subjects were designated by their teachers as good readers. These 24 subjects served as subjects in each of the first three experiments, and four of the fourth graders were the subjects in Experiment 4. Stimuli in most experiments were low readability sentences of up to 42 characters per line displayed on a CRT. The sentences were displayed one line at a time within a window that varied in size. The size of the window limited the number of characters visible to the left and to the right of central fixation. Wide windows allowed the inclusion of 14 letters to the left and to the right of central fixation; whereas narrow windows allowed the inclusion of only two letters to the left and right of central fixation. All characters outside the window were replaced by an X. In addition to varying the size of the window, Experiments 2 and 3 also varied the number of words available to the right of central fixation while leaving visible all words to the left, and restricting words available to the left to the beginning of the word fixated. Experiment 4 assessed the effects of window size when fourth graders read fourth grade and college level reading material. It was found that the perceptual span of beginning readers is about 11 letters to the right of central fixation, and that for skilled readers it is about 14 to 15 characters. Beginning readers spend more time processing the foveally fixated word than do skilled readers, but their perceptual span appears to be asymmetric to the right of fixation, as is the case with mature readers. The size of the perceptual span is also affected by the difficulty of text. Concludes that size of perceptual span does not cause beginning readers' slow reading rates, but rather, the slow rate results from the time spent in processing the foveally fixated word.

STRUEMPLER, RICHARD E.; LARSON, GERALD E.; & RIMLAND, BERNARD. Hair mineral analysis and disruptive behavior in clinically normal young men. *Journal of Learning Disabilities,* December 1985, *18,* 609-612.

Analyzes the relation between amount of certain minerals found in hair samples and certain characteristics of a selected group of 40 Navy recruits. The 40 recruits were selected from a total population of 980 recruits entering basic training at one naval base. Subjects were selected to form high and low groups on the criteria of: mental ability as measured on the *Armed Forces Qualification Test,* reading ability, number of demerits accumulated while in the service, attrition from the service, and amount of schooling. Exactly how subjects were selected and how many were high and low in these characteristics is not reported. Hair samples were collected from the nape of the neck during the subject's recruit haircut. The samples were analyzed for levels of copper, iron, magnesium, zinc, lead, cadmium, aluminum, and calcium. Product-moment correlation coefficients were calculated between mineral levels and all behavioral indices. Significant coefficients were found between demerits and cadmium (.55) and magnesium (.41); reading level and magnesium (-.41), cadmium (-.35) and serum iron (.37); mental ability and serum iron (.42); and discharge and copper (.56) and hair iron (-.34). The authors caution that these findings are all enhanced because of the procedures for selecting subjects. Juxtaposes these findings with other research that has found significant relations between hair levels of certain minerals and learning disability, juvenile delinquency, and mental retardation.

IV-2 Sex differences

BROPHY, JERE. Interactions of male and female students with male and female teachers. In Louise Cherry Wilkinson & Cora B. Marrett (Eds.) *Gender Influences in Classroom Interaction.* Orlando, FL: Academic Press, Inc., 1985, 115-142.

Reviews literature related to whether teachers treat boys and girls differently and whether such treatment is a function of the sex of the teacher. The chapter first briefly reviews pre-1974 findings which tended to focus on the elementary school and frequently on reading instruction at that level. A larger second section then reviews the literature following 1974. It is noted that the newer literature has shifted to secondary level schooling and to instruction in mathematics and science where girls, rather than boys, have been found to be at risk. It is felt that while teachers are probably not major factors in causing or broadening sex differences, they do tend to sustain or reinforce existing differences. Male and female pupils do have somewhat different experiences in classrooms, but these sex differences tend to interact with other variables particularly with individual academic achievement and classroom conduct. The research literature is criticized for being primarily descriptive and correlational and needed directions are suggested.

OLSON, ARTHUR V. Cognitive processing behavior of students retelling a story read silently: Grades three and six. *Reading Improvement,* Fall 1985, *22,* 226-232.

Determines the ability of 44 third- and 52 sixth-grade above average readers to recall orally a story they had previously read silently. Retellings were recorded, transcribed, and then analyzed to see if they matched the author's T-units. Four cognitive processing behaviors were studied: stating a judgment in light of what is known; stating related bits of information; extending the story on the basis of the reader's experience; and focusing on specific parts rather than giving equal attention to all story parts. Differences were found between third- and sixth-grade female students, with third graders following the author's structure more than sixth graders. Male third graders made more judgmental statements and added more information based on past experience than do males at sixth grade or females at either grade. Age and sex differences were also found for recall of different parts of the story.

HOGREBE, MARK C.; NIST, SHERRIE L.; & NEWMAN, ISADORE. Are there gender differences in reading achievement? An investigation using the High School and Beyond data. *Journal of Educational Psychology,* December 1985, *77,* 716-724.

Draws upon data collected from the High School and Beyond (HSB) national survey conducted in 1980 to investigate sex differences in reading achievement at the high school level. Vocabulary and reading comprehension scores were available for 23,362 high school seniors and 24,678 sophomores. The amount of variance accounted for in reading achievement by gender was analyzed. Analyses were computed separately for seniors and sophomores. Additionally, both seniors and sophomores were divided into high, medium, and low groups based on HSB reading test scores and analyses performed by ability groups within each grade level. Less than 1% of the variance in reading achievement test scores was accounted for by gender at either grade level. Comparisons are made with the 1979-1980 National Assessment of Educational Progress data which gave opposite results.

SCOTT, KATHRYN P. Effects of sex-fair reading materials on pupils' attitudes, comprehension, and interest. *American Educational Research Journal,* Spring 1986, *23,* 105-116.

Examines the effects of traditional and nontraditional narratives on students' sex role perceptions, comprehension, and interest. Male and female students at three grade levels (fourth, seventh, and eleventh) read a set of four narratives, one for each of four sex role conditions: traditional female, nontraditional female, traditional male, and nontraditional

male. Dependent measures included sex role attitudes, story interest, and comprehension. Results revealed that sex role of character, grade level, and sex had significant effects on sex role attitudes. Comprehension scores indicated a significant main effect for grade level and a sex of character by role interaction. Interest scores yielded two main effects and three interactions suggesting that females liked narratives about traditional females better than those about nontraditional females but liked nontraditional male narratives better than traditional male narratives.

IV-3 Intellectual abilities and reading

TURNER, IRENE F.; SCULLION, LAURA T.; & WHYTE, JEAN. Relationship between reading proficiency and two types of classificatory ability. *Journal of Research in Reading*, September 1984, *7*, 123-134.

Investigates the relation between reading and the ability to classify conceptually. From an initial pool of 59 boys of similar working-class background (mean age = 15.7 years) attending secondary schools in Belfast, Northern Ireland, two groups of 12 were selected. Using the *Raven's Progressive Matrices* and the *Edinburgh Reading Test*, Stage IV, a normal reader group and a poor reader group were identified. Independent t-tests demonstrated that the groups differed significantly in reading ability, but not in intelligence. The classificatory ability of the two groups was assessed by two tasks. The first was a free sort task, which tested the subjects' use of conceptual and idiosyncratic grouping strategies in their recall of pictorial stimuli. The second was an associative grouping task, which assessed the subjects' use of superordination. The results of both tasks showed a positive relation between reading proficiency and classificatory ability, supporting the substrata factor theory that poses readers reduce the variety of symbolic stimuli by discriminating, abstracting, generalizing and organizing common elements or crucial aspects of complex figures. Differences in scores between good and poor readers on the free sort task were not as marked as might be expected from earlier research, and explanations are provided.

MILLER-JONES, CINDY, & GALLAGHER, JEANETTE MCCARTHY. Piagetian-based research in reading: The bird *is* out of the cage. *Reading-Canada-Lecture*, October 1983, *2*(3), 11-19.

Contrasts Ferreiro and Teberosky's description of the concept of print with Tzeng and Singer's and that of other researchers. In addition, the reviewers present an interface between the Ferreiro/Teberosky findings on reading without pictures and current research in the field regarding cognitive development and multiple attributes of print.

DEANE, NOLA, & MALICKY, GRACE. Reading processes of high and low divergent thinkers. *Alberta Journal of Educational Research*, December 1985, *31*, 250-257.

Examines differences in the reading processes of pupils who are high and low in divergent thinking ability. A sample of 73 high-ability, grade six readers were administered a measure of divergent thinking. The 20 highest scoring and 20 lowest scoring pupils were retained for the study. Each pupil read a 500-word narrative selection, gave an oral recall, completed a sentence verification task, and gave an introspective account of processes used. Multivariate analysis revealed no significant overall difference in the reading processes of high and low divergent thinkers. Descriptive data found that three-fourths of the high divergent readers, but only one-fourth of the less divergent readers, reported connecting the story with their past experiences. However, high divergent readers used their past experiences in different ways which are identified and compared to associations made by less divergent thinkers.

YORE, LARRY D., & OLLILA, LLOYD O. Cognitive development, sex, and abstractness in grade one word recognition. *Journal of Educational Research*, March/April 1985, *78*, 242-247.

Studies the effects of cognitive development, sex, and word abstractness on the word recognition of 99 Canadian first graders, ranging in age from 5.9 to 6.9. Cognitive development tasks assessed were conservation (liquids, number, solid amounts, and lengths), logical grouping (classes or relations), and infralogical grouping (conceptions of space and time). Word abstractness tasks involved nine concrete nouns and nine abstract words. Number of nouns and non-nouns correctly recognized after instruction was the dependent measure. Subjects recognized more concrete words than abstract words; subjects with higher levels of cognitive development did better than those with lower levels; and females outperformed males. Significant main effects were found for word type and cognitive development. Other main effects and interactions were nonsignificant.

JORM, A.F.; SHARE, D.L.; MACLEAN, R.; & MATTHEWS, R. Cognitive factors at school entry predictive of specific reading retardation and general reading backwardness: A research note. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, January 1986, *27*, 45-54.

Investigates cognitive deficits in retarded and backward readers. A group of 453 Australian children was followed over the first three years of school. Cognitive skills were measured when they entered school. Based upon testing at the end of the third year, they were classified as retarded readers, backward readers, or normal. The following were assessed at the beginning of kindergarten: letter names, name writing, name reading, letter copying, recognition and discrimination of letters and numbers, *Northwestern Syntax Screening*, *Peabody Picture Vocabulary Test*, sentence memory, picture and color naming, reflectiveness/impulsiveness, pseudoword learning and reproduction, phoneme segmentation, repetition, finger localization, motor impersistence, and motor impairment. Tests of reading ability and intelligence were administered at the end of second grade. Results found that backward readers, who had generally lower IQs, were deficient on a broad range of cognitive tasks, which could be classified as early literacy and phonological processing, when they entered school.

BELL, TERECE STOVALL, & KEE, DANIEL W. Individual differences in cognitive synthesis: An M-capacity analysis. *Contemporary Educational Psychology*, October 1984, *9*, 323-332.

Asks 21 first graders to demonstrate the meaning of 16 logograph sentences, 8 meaningful and 8 scrambled. Children were administered sections of the *Raven's Standard Progressive Matrices Test* to obtain an estimate of their reserve of attentional capacity (M-capacity). The *Developmental Reading Profile* had been given by a teacher three weeks prior to the study and was used as a measure of reading proficiency in various areas. Based on the ability to demonstrate the logograph sentences, 9 children were classified as synthesizers (expressed the idea as a single unit) and 11 as nonsynthesizers (expressed the meaning of individual logographs). Groups showed no significant difference in age, intellectual level, or reading achievement. Synthesizers had a larger M-capacity than nonsynthesizers.

RYAN, GARY T., & PEREZ, SAMUEL A. The influence of intelligence, motivation and readability on critical reading skills of secondary students. *Reading Improvement*, Spring 1984, *21*, 45-50.

Examines the influences of text readability, reader motivation, and reader intelligence on the critical and literal reading of 207 students in nine randomly chosen classes of U.S. History in three school districts in the Southwest. Subjects were tested during regularly scheduled class time, with experimental materials consisting of three textbook narratives dealing with the U.S. Constitutional Convention, an 18 question multiple-choice criterion-

referenced test on the text, and the *Junior Index of Motivation* (JIM). Text materials, each written at a different level of readability, were randomly assigned within the nine classes. Subjects were given 15 minutes to study and read the passage before completing the test questions. After completion of the task, students completed the JIM Scale. Statistically significant differences were found for the effects of motivation and intelligence on critical reading, but not for readability. Readability, motivation, and intelligence all had statistically significant influences on subjects' comprehension of literal information.

KENDER, JOSEPH P.; GREENWOOD, SCOTT; & CONARD, ELIZABETH. WAIS-R performance patterns of 565 incarcerated adults characterized as underachieving readers and adequate readers. *Journal of Learning Disabilities*, August/September 1985, *18*, 379-383.

Examines the patterns of recategorized WAIS-R scores of a sample of adult prison inmates. The sample consisted of 565 inmates classified as underachieving or adequate readers. Individual WAIS-R scores were categorized as Spatial (Block Design, Object Assembly, and Picture Completion), Conceptual (Vocabulary, Similarities, and Comprehension), and Sequential (Digit Span, Coding, and Picture Arrangement). The dominant pattern for the entire sample was found to be Spatial > Sequential > Conceptual. No significant difference in WAIS-R patterns was found between reading groups. Although ANOVA results found no significant difference between reading groups in their scores on the three categories, significant differences were found among the three category scores.

LEONG, CHE KAN; CHENG, SHIU CHING; & DAS, J.P. Simultaneous-successive syntheses and planning in Chinese readers. *International Journal of Psychology*, 1985, *20*(1), 19-31.

Investigates simultaneous-successive syntheses and planning in Chinese children and studies the effect on reading. Subjects were 66 fourth graders and 63 sixth graders, all from a school in Hong Kong. The following test data and tasks were administered: *Raven's Coloured Progressive Matrices*, ITPA Auditory Sequential Memory Subtest, *Trail-Making Test* A and B, auditory serial recall task, figure copying, memory-for-designs, visual search task, and sentence repetition. Additionally, a standardized Chinese reading test from the *Hong Kong Attainment Tests* was administered. Principal factor and promax analyses were conducted. Simultaneous and successive components contributed to composite reading with varying degrees of variance for each grade.

IV-4 Modes of learning

SOLDOW, GARY F. The processing of information in the young consumer: The impact of cognitive developmental stage on television, radio and print advertising. *Journal of Advertising*, 1983, *12*(3), 4-14.

Examines kindergarten-, first-, and third-grade children's (n = 327) ability to identify a fictitious brand of cereal after exposure to advertising in one of three formats: visual (magazine), auditory (radio), and visual plus auditory (television). The treatment conditions were designed to test differences between an intermodal task in which the input received in one modality requires an output in another, and an intramodal task, in which the input and output requirements are in the same modality. Responses were determined by the children's ability to correctly identify the package they had seen or heard about from an array. Children were classified into cognitive stages (preoperational or concrete operational) by use of a Piagetian conservation task. Forty-one children classified as transitional were not included in the final analysis. Results of log linear logit analysis for categorical data indicated that older

children performed better than younger children. Younger children (preoperational) unexpectedly performed equally well in the radio (intermodal) and print and television (intramodal) conditions. Further, package selection, in terms of background detail, appeared to be linked to cognitive stage as well as modality.

THORPE, HAROLD W., & BORDEN, KIM SOMMER. The effect of multisensory instruction upon the on-task behaviors and word reading accuracy of learning disabled children. *Journal of Learning Disabilities*, May 1985, *18*, 279-286.

Investigates the effects of multisensory instruction upon the word reading accuracy and on-task behaviors of seven-, eight-, and nine-year old learning disabled pupils in a series of four experiments. Visual and auditory (VA) instruction with and without teacher praise was compared with visual, auditory, kinesthetic, tactile (VAKT) instruction with and without teacher praise. The research design was a single subject reversal technique. Experiment 1 contained a VA, a VAKT, and second VA condition. Experiment 2 was an exact replication of those procedures but with different subjects. Experiment 3 consisted of a VA plus praise phase, a VAKT phase, a second VA plus praise phase, a VAKT plus praise phase, and finally a VA plus praise phase. Fifteen different words were taught per day during all phases of the first three experiments. Experiment 4 replicated Experiment 3 with the exception that 25 different words were taught each day and children were pretested before each day's lesson. Dependent variables included the percentage of on-task behavior and the percentage of words learned daily. Results indicated that all four types of instruction increased word reading accuracy when compared with pretest scores. Nevertheless, there were significant differences in effectiveness among the four treatments. Visual auditory instruction alone was less effective than visual auditory plus praise, and the multisensory procedure with or without praise. However, visual auditory with praise was the most effective of all the procedures. Praise and the manual components were both successful means for increasing on-task behavior.

PETERS, ELLEN E.; LEVIN, JOEL R.; MCGIVERN, JULIA E.; & PRESSLEY, MICHAEL. Further comparison of representational and transformational prose-learning imagery. *Journal of Educational Psychology*, April 1985, *77*, 129-136.

Compares the effects of two types of visual imagery instructions on recall. A sample of 120 eighth graders who were reading at or above grade level were randomly assigned to one of six treatment conditions. Three instructional strategies (transformational imagery, representational imagery, and control) were crossed with two types of fictitious passages about famous people (name and occupation). After reading the passages, subjects were assessed for central information recall and incidental information recall. Significant interaction comparisons between instructional strategies and passage types were found, suggesting that transformational imagery was more effective on the difficult to represent name passages than on the more easily represented occupation passages. However, similar results were not found for incidental recall information.

MCCONAUGHY, STEPHANIE H. Good and poor readers' comprehension of story structure across different input and output modalities. *Reading Research Quarterly*, Winter 1985, *20*, 219-232.

Examines story comprehension patterns of good and poor sixth-grade readers across four modality combinations for input and output: listening-oral recall, reading-oral recall, listening-written recall, reading-written recall. Twenty-one good readers and 21 poor readers were asked to summarize important information in a short story presented for each condition. The subjects were tested individually in one 45-minute session. The results showed that good readers recalled more story propositions, but that the organization of the story schemata represented in the summaries was similar for the two groups. This included the pattern of story grammar categories for explicit propositions recalled, the number and types of additions, and

the levels of importance of summary propositions in the hierarchical structures of the stories. Differences in the types of information emphasized as important were found for explicit information as compared with implicit information, suggesting variations in schema organization related to the nature of the text. There were no significant differences between the groups related to input or output modalities, although oral recall conditions produced longer summaries overall.

ROTHLISBERG, BARBARA A., & DEAN, RAYMOND S. Reading comprehension and lateral preference in normal readers. *Psychology in the Schools*, July 1985, *22*, 337-342.

Explores the relation between lateral preference, reading and auditory comprehension, and auditory-visual short-term memory for normal readers. Subjects were 48 white, male fourth-grade pupils. Lateral preference was inferred from a self-report measure. Intellectual functioning and reading achievement were assessed through standardized tests. Short-term memory was determined by the *Visual Aural Digit Span Test*. To examine comprehension ability, each subject was tested on four passages, two presented graphically and two presented orally. Within each mode of presentation, one passage was presented normally and one segmented by phrases. Two lateral groups (mixed vs. consistent) were established from a median split on the self-report measure. Results demonstrated that lateralized readers performed better in the auditory task than in the written task, that bilateral readers performed more consistently across conditions, and that bilateral readers recalled significantly more information than the lateralized readers in the written condition. The groups did not differ on recall of orally presented material or short-term memory. Stepwise discriminant analysis revealed factors other than laterality to be better predictors of reading ability.

FOGLIANI-MESSINA, TERESA M., & FOGLIANI, ANNA M. Perceptual experience in learning to read. *Perceptual and Motor Skills*, October 1984, *59*, 479-482.

Observes to what extent the level of field-dependence/independence at the end of Italian elementary school is related to reading comprehension, accuracy, and speed. Subjects were 24 children, aged 10 years, who were administered the *Children's Embedded Figures Test* (CEFT) and the *Prove di Lettura M T* test. Significant coefficients of correlations were found between CEFT and Accuracy and CEFT and Comprehension, but not between CEFT and Speed. When the group was divided into field-dependent and field-independent subjects, the two groups were significantly different in accuracy, but not in comprehension or speed.

IV-5 Experiments in learning

GAMBRELL, LINDA B.; PFEIFFER, WARREN R.; & WILSON, ROBERT M. The effects of retelling upon reading comprehension and recall of text information. *Journal of Educational Research*, March/April 1985, *78*, 216-220.

Studies the effect of retelling upon reading comprehension and recall of text information for 93 fourth-grade pupils randomly assigned to either retelling or illustrating treatment conditions. Subjects participated in four training sessions where they read passages silently, completed an outline of important ideas and supporting details, and then either retold or illustrated the important ideas. Subjects were then tested with an additional passage, an additional outline, and a free recall. Two days later, subjects wrote another free recall and answered 10 literal and 10 inferential questions. Subjects who received practice in retelling scored higher on measures of reading comprehension, both in immediate and delayed conditions.

FREEBODY, PETER, & ANDERSON, RICHARD C. Serial position and rated importance in the recall of text. *Discourse Processes*, January-March 1986, *9*, 31-36.

Examines the relation between a proposition's serial position, its rated importance, and the probability of its appearance in free recall. A sample of 228 sixth-graders, classified as average readers, read eight social studies passages and produced free recalls. The passages were manipulated so as to produce varying degrees of vocabulary difficulty. Data across passages were combined into a regression analysis with proportion of propositions recalled as the criterion variable. The multiple regression coefficient was .32. Importance, position, and the quadratic of position predicted significant portions of the variance in recall. Early stated and, to a lesser extent, later stated propositions were better recalled.

MCCOWN, RICK R., & MILLER, RAYMOND B. Referential coherence and structural height in text processing. *American Educational Research Journal*, Spring 1986, *23*, 77-86.

Compares, in two experiments, the height and coherence explanations of the levels effect in text memory. The height account stresses the height of an idea in text structure as the major determinant of the idea's memorability; coherence focuses on the nature of the cognitive processes that occur during comprehension. In Experiment 1, a sample of 88 undergraduate students was randomly assigned to one of four versions of a passage. Each stimulus variation contained the same target paragraph. However, height of the target paragraph and referential relationship between the target and subsequent paragraphs were systematically manipulated. In effect, two levels of height (high vs. low) were crossed with two levels of referential coherence (referentially related vs. not related). The dependent measure was number of propositions from the target paragraph produced in a free recall. A 2 x 2 ANOVA revealed only one significant finding for the main effect of referential relationship. For Experiment 2, a different passage and 56 undergraduates produced identical results.

BIRKMIRE, DEBORAH P. Text processing: The influence of text structure, background knowledge, and purpose. *Reading Research Quarterly*, Spring 1985, *20*, 314-326.

Investigates the independence of text structure, background knowledge, and purpose for reading in relation to text processing and memory. Subjects were undergraduates, reading at a minimum college sophomore level as tested by the *Nelson-Denny Reading Test*, and were either physics and engineering majors ($n = 45$) or music majors ($n = 45$). Subjects read four passages presented a sentence at a time on a computer screen. One passage was a practice passage, and the others were counterbalanced across groups. Each passage was read twice. The three experimental passages concerned a laser annealing technique, the history of musical notation, and keeping parakeets as pets. Texts were analyzed according to hierarchical context structure, and sentences placed in the categories high, intermediate, or low. Subjects were told to read for one of three purposes: for main idea, to answer three questions referring to content high in the structural hierarchy, or to answer three questions low in the structural hierarchy. After reading each passage, subjects completed a 12-item recognition memory test involving identification of sentences which appeared in the passage. Reading rate was also measured. Among other findings were that subjects read high content structure in the passages related to their major ($p < .001$). Similarly, music majors made more errors on recognizing sentences from the laser text than did the physics group, while positions were reversed on the notation text ($p < .001$). Targeted sentences (ones referred to in the purpose setting questions) were read at a slower rate when referred to in the instructions ($p < .01$), and according to familiarity with the topic ($p < .001$).

DIXON, ROGER A.; HULTSCH, DAVID F.; & SIMON, ELLIOTT W.; & VON EYE, ALEXANDER. Verbal ability and text structure effects on adult age differences in text recall. *Journal of Verbal Learning and Verbal Behavior,* October 1984, *23,* 569-578.

Examines the effects of verbal ability level and selected text structure variables on the text recall of younger, middle-aged, and older adults. There were 36 female subjects at each of the three age groups: 20 to 39; 40 to 57, and 60 to 84. Within each age group, subjects were classified as high- or low-verbal based on their scores on Part I (18 items) of the Advanced Vocabulary Test from *The Kit of Factor Referenced Cognitive Tests.* The women were asked to read six articles, each about 98 words in length, and then to write their recall of each. Recalls were scored for the number of text propositions included. Younger and middle-aged subjects recalled a significantly greater proportion of arguments than did older subjects. High-verbal women recalled a significantly greater proportion of propositions than did low-verbal subjects. Recall was better for texts with many arguments than for those with few arguments. First order or superordinate propositions were recalled better than lower level propositions. For women of low-verbal ability, age-related differences in recall were greatest for the main ideas. For women of high-verbal ability, age differences in recall were greatest for the details of the text.

VAN DAM, GERRIT, & BRINKERINK-CARLIER, MICHELE. The influence of selective extension of text length on free recall of the constituent elements of information. *Journal of General Psychology,* October 1984, *111,* 177-184.

Studies, in two experiments, the influence of free recall of adding details to half of the constituent elements of a text. Subjects for Experiments 1 and 2, respectively, were 52 and 56 undergraduate psychology students at the University of Utrecht. In Experiment 1, subjects were randomly assigned to one of four versions of a narrative text: 1) Short/Short (S/S), containing 20 coherent scenes which differed in length; 2) Short/Long (S/L); 3) Long/Short (L/S) versions in which the 20 scenes were divided into two subsets of 10 scenes (Set A and Set B) containing 95 and 90 details, respectively, and then 90 embellished details were added to the scenes of Set A or Set B; and 4) the Long/Long (L/L) version in which the lengthened Sets A and B were combined. Subjects were asked to study the text and told that they would have to reproduce it in their own words. Following a 20-minute interval in which they worked at another task, subjects were asked for an oral free recall of the text. Protocols were scored for gist recall of the scenes. Experiment 2 followed the same procedures except that an enumerative expository text was used. In Experiment 1, extension of the length of relatively frequently reproduced scenes increased their frequency of recall, while the reverse held for relatively less frequently produced scenes. In Experiment 2, increasing the size of half of the constituent clusters did not influence their frequency of reproduction; nonextended clusters seemed to be depressed in their frequency of recall. The authors concluded that the effect of extension of the size of the scenes of a text on recall seemed to be a function of the saliency of the scenes within the context of the text's overall structure.

VAN DAM, GERRIT; BRINKERINK-CARLIER, MICHELE; & KOK, INEKE. The influence of embellishment and prequestions on free recall of a text. *Journal of General Psychology,* April 1985, *112,* 211-219.

Studies the effects of text recall of prequestions and additional details designed to embellish the constituent scenes of the text. Subjects in the two experiments were 52 and 48 Dutch undergraduate students. The text read in both experiments contained 150 elementary information units and 20 self-contained complexes of information called scenes. Each scene dealt with a different aspect of the topic. Two sets of prequestions were prepared that corre-

sponded respectively with the odd- and even-numbered scenes. An extended version of the text was created by adding embellishing details to all scenes, resulting in 300 elementary information units. Subjects in Experiment 1, designed to assess the effects of prequestions, read either the short or long version with either the odd- or even-scene prequestions. Differences between versions and type of questions were not significant in the ANOVA. The interaction between type of prequestion and type of recalled scenes was significant, indicating that subjects recalled more information from the scenes included in the prequestions studied. In Experiment 2, subjects read two versions of the same passage. ANOVA results indicated that embellished odd (or even) details in conjunction with matching odd (or even) prequestions resulted in significantly more recall of odd (or even) information.

ZIMMER, JOHN W. Text structure and retention of prose. *Journal of Experimental Education*, Summer 1985, *53*, 230-233.

Views the overall effects on comprehension and retention of a number of aspects of text structure. Subjects were 39 undergraduate elementary education majors who were randomly assigned to one of four study conditions. Two conditions were structured: 1) Immediate Multiple-Choice/Delayed Cued Recall (S-IMC/DCR), and 2) Immediate Cued Recall/Delayed Multiple-Choice (S-ICR/DMC). Two conditions were nonstructured: 3) Immediate Multiple-Choice/Delayed Cued Recall (N-IMC/DCR), and 4) N-ICR/DMC. Subjects were presented with one of two versions of a 7,500-word chapter on a educational topic. The structured version included 25 learning objectives, pictures, charts/graphs, highlighted title and paragraph headings, marginal reference notes, a glossary, and an annotated bibliography. Version 2 had all structural features removed. A 22-item multiple-choice test and a cued recall question were used as evaluation measures. For IMC/DCR conditions, no significant differences were obtained between groups on either instrument. However, the N group had higher scores. For the ICR/DMC conditions, the N group performed significantly better than the S group. Findings were interpreted as consistent with an interference/distinctiveness of encoding hypothesis.

GLANZER, MURRAY; FISCHER, BETH; & DORFAM, DAVID. Short-term storage in reading. *Journal of Verbal Learning and Verbal Behavior*, August 1984, *23*, 467-486.

Carries out a series of five experiments concerning the role of short-term storage in reading. Subjects for all experiments were undergraduates and numbered 24, 20, 60, 64, and 48, respectively. In Experiment 1, subjects read 20 paragraphs in one of two conditions, continuous or interpolated. Sentences in the continuous condition followed each other as in normal text. In the interpolated condition, an unrelated factual statement appeared after each sentence and served as a distractor task by eliminating the carry-over of short-term storage information from one sentence to another. A plus sign was placed to the left of the first word of each factual statement in order to avoid confusion as to whether a sentence was part of a paragraph. Six comprehension questions on the paragraph and six comprehension questions on the factual statements followed. Sentences and questions were shown one at a time on a video monitor. Reading times were assessed. Subjects' reading of paragraph sentences was slowed but comprehension scores were not affected by the interpolated task. Reading times and comprehension scores for factual statements were unaffected by the experimental conditions. Experiment 2 showed that the interruption effect could not be countered by giving subjects general, thematic information. Experiment 3 demonstrated that the interruption effect could be countered by giving subjects the final one or two sentences that preceded the interruption. Experiments 4 and 5 supported Experiment 3.

MOHR, PATRICIA; GLOVER, JOHN A.; & RONNING, ROYCE R. The effect of related and unrelated details on the recall of major ideas in prose. *Journal of Reading Behavior,* 1984, *16*(2), 97-108.

Conducts three experiments examining the influences of related and unrelated details on recall of major ideas in the text. Experiment 1 studies readers' recall of major ideas which were supported by different numbers of related and unrelated details. In Experiment 2, the influence on recall of directions requiring readers to process unrelated details was noted. Experiment 3 noted the influence of an elaborative categorizing task on recall of major ideas. In all three studies, subjects were volunteers from undergraduate classes and numbered 20, 32, and 45, respectively. Recall of major ideas increased as the number of associated related details increased and as the number of unrelated details decreased. Directions to relate unrelated details to major ideas had no effect on recall of major ideas but did result in greater recall of both related and unrelated details. Experiment 3 supported findings of Experiments 1 and 2. Recall of major ideas was not influenced by the categorization task. However, recall of both related and unrelated details was increased.

WONG, BERNICE Y.L. Self-questioning instructional research: A review. *Review of Educational Research,* Summer 1985, *55,* 227-268.

Reviews 27 studies of self-questioning that were designed to improve students' prose processing. The review approaches the topic from both theoretical and practical perspectives. Topics covered in the review include: types and functions of questions, varying goals in self-questioning instruction, constraints in self-questioning, criterion measures, and maintenance and transfer effects. Presented is a table summarizing each study in terms of: grade level of subjects, experimental focus, instructional conditions, instructional duration, dependent measures, and outcome. Concludes that the effects of self-questioning training do positively affect student learning. Also discussed the constraints of content knowledge and metacognitive deficiencies on self-questioning and the methodological problems underlying instructional failures in self-questioning research.

KRAFT, GOLDIE S.; NOVIE, GREGORY J.; & KULHAVY, RAYMOND W. Verbal/spatial task expectations in written instruction. *British Journal of Educational Psychology,* November 1985, *55,* 273-279.

Reports the results of two studies which investigate how task expectations influence test responses which require different types of cognitive activity. Subjects were 72 ninth-grade students randomly assigned to one of three conditions. A factorial design was used that consisted of three levels of test expectation (spatial vs. verbal vs. control) crossed with two types of tests (map vs. no map) crossed with two types of items (location vs. event). Subjects independently studied a text passage accompanied by a map and took one of two posttests. An ANOVA of correctly recalled items revealed significance for test type, item type, and test expectation by item type interaction. Performance on the map-test was higher than on the no-map test and recall for location items was better than for event items. A follow-up study, which replicated and extended the first, produced similar results.

BAKER, LINDA. Differences in the standards used by college students to evaluate their comprehension of expository prose. *Reading Research Quarterly,* Spring 1985, *20,* 297-313.

Examines the standards of evaluation used by 58 college students (37 women, 21 men) when reading 12 passages of expository text. Based on SAT verbal scores, 23 subjects had high verbal ability (M = 599) and 35 had lower verbal ability (M = 388). Problems were embedded into texts. Half of the subjects were told to use three particular standards (lexical,

external consistency, and internal consistency) to identify the problems. The remaining subjects were not given information as to the standards to use. Subjects read the passages silently, underlining anything they thought was a problem. They then selected one of four evaluative statements about problems in the text, and explained their choice and why they underlined any words or phrases when reading. If subjects did not identify problems, they were encouraged to reread passages to find specific answers. Problems identified in text were classified as to the type of standard they reflected: the three targeted, as well as syntax, propositional cohesiveness, structural cohesiveness, and informational completeness. Students who received specific instructions identified more problems. Higher verbal ability students identified more than lower. Identification rates varied with problem types. Subjects differed in the number of times they used each standard, and patterns differed with instructions. Lower ability students used the standards less frequently. Lexical standards and structural cohesiveness standards were used more often when students had no specific directions. Higher verbal ability students used more different standards.

DUCHASTEL, PHILIPPE C. Independent study strategies: Reactions to study guide components. *Programmed Learning and Educational Technology,* May 1983, *20,* 122-125.

Explores the study strategies used by students enrolled in an independent study program. For the study four students were interviewed and 42 others, enrolled in two different courses, filled out questionnaires. In course A, an introduction to the field of insurance, the study guide for each unit included a Purpose and Significance section, an outline of the unit, a set of study questions, and a quiz. In course B, an introductory economics course, the same elements were included in each study guide unit plus learning objectives and a summary; additionally, the text used color to emphasize main points. Most students reported reading the Purpose and Significance sections (75% in course A, 90% in B). Objectives in course B were read by 75% of students. About 20% of students in A reported reading the assigned text sections and skipping the study guide questions altogether. Some 60% of students in A reported reading all assigned material; in B, about 40% stated that they bypassed the main text and just used the summary.

WALKER, CAROL H., & YEKOVICH, FRANK R. Script-based inferences: Effects of text and knowledge variables on recognition memory. *Journal of Verbal Learning and Verbal Behavior,* June 1984, *23,* 357-370.

Examines the tendency for subjects to falsely remember the mention of concepts only implied by texts. In the first experiment, 32 undergraduates read a series of short texts presented on a screen one sentence at a time. Eight texts were prepared concerning familiar topics. In each initial text two central and two peripheral target concepts were selected based on a propositional analysis. A central concept was one mentioned or implied at least five times, and a peripheral concept was one mentioned or implied only once. Two versions of each passage were written so the target concepts were not mentioned, but so that they contained a central concept implied five times and a central concept implied once, and a peripheral concept implied five times, and a peripheral concept implied once. Each subject read one of the two versions. A 20-item recognition test was administered after each passage, of which 4 items were the target concepts, 4 items were concepts explicitly stated in the text, and 12 items were unrelated. Fewer correct responses were made to implied than to explicit concepts ($p < .001$). More false alarms were made to central than to peripheral items ($p < .001$), and to concepts implied five times than to those implied only once ($p < .001$). In the second experiment, undergraduates ($n = 32$) performed a similar task, but the texts were rewritten so that concepts implied five times were only implied three times, and those implied once were not implied at all. The pattern of errors was identical to that in the first experiment.

McQUADE, DEBRA V. Pre-lexical phonological recoding becomes automatic with stimulus repetitions. *Language and Speech*, October-December 1983, *26*, 393-405.

Investigates the notion of automaticity as it applies to phonological recoding. The 72 college students were presented with a lexical decision task based on a mixed list of 10 words and 10 nonwords. Reaction time to judgment was the dependent variable. Nonword stimuli consisted of five pseudohomophones and five control nonwords. Stimuli were randomly mixed to form 10 lists which were presented during 10 trial blocks. Additionally, the *Nelson-Denny Reading Test* was administered to all subjects. During the initial presentation, RTs to pseudohomophones were longer than RTs to control nonwords, but the difference was reduced over trial blocks. Increased reading ability was found to be associated with a decreased pseudohomophones effect; the higher the reading ability, the less the initial time spent on phonological recoding.

CLIFTON, JR., CHARLES; FRAZIER, LYN; & CONNINE, CYNTHIA. Lexical expectations in sentence comprehension. *Journal of Verbal Learning and Verbal Behavior*, December 1984, *23*, 696-708.

Cites results of two experiments (n = 36 and 48 undergraduates, respectively) investigating the use of lexical information in sentence comprehension. For Experiment 1, subjects read simple sentences, constructed in four forms each, and presented one word at a time on a screen. Sentence forms were either transitive or intransitive. Immediately after the first word after the verb, sentence presentation was interrupted by a lexical decision task. Following each sentence, a question was asked. Experiment 2 used an end-of-the-sentence grammaticality judgment task. Both experiments demonstrated that strict subcategorization information is used rapidly in understanding sentences with lexically present phrases and in sentences with fillers and gaps.

DE GROOT, ANNETTE M.B. The range of automatic spreading activation in word priming. *Journal of Verbal Learning and Verbal Behavior*, August 1983, *22*, 417-436.

Conducts four unmasked-prime and three masked-prime experiments to study the range of automatic spreading activation in semantic memory. In all experiments, undergraduate students at the University of Nijmegen were used; subjects numbered between 17 and 21 in the seven experiments. In the first three experiments, the same four groups of 30 prime-target pairs were used: one group of mediator pairs, one group of directly related prime-target pairs, one group of unrelated prime-target pairs, and one group in which the target followed a neutral prime. In Experiment 4, a new set of materials was used. In the first four experiments, the prime was exposed long enough to be read by all subjects; in the final three experiments, the prime was presented for a shorter time period and was followed by a masking stimulus to prevent its conscious perception. Findings from the first four experiments (unmasked) indicated a one-step spread from the prime's representation to those of its direct associates. In the masked experiments, one-step automatic spreading activation was again supported, but the findings ruled out any further spread.

SCHMIDT, HANK G. Activation and restructuring of prior knowledge and their effects on text processing. In August Flammer & Walter Kintsch (Eds.) *Discourse Processing*. Amsterdam & New York: North-Holland Publishing Company, 1982, 325-338.

Assesses the effects of a group problem-solving procedure in two experiments. All subjects were Dutch university biology students, 39 in Experiment 1 and 48 in Experiment 2. In Experiment 1, small groups of subjects were presented with a problem relating to the topic of osmosis. They discussed the problem under the guidance of a tutor who did not teach

osmosis but encouraged reflection, problem definition, production of explanations, and elaboration. The dependent variables were scores on a reproduction and transfer test. The control group did not receive the problem. The experimental group demonstrated a significantly greater amount of reproduction and transfer of information to the solution of the problem. Experiment 2 was identical to the first, except that a 2,200-word written text was distributed. Again the experimental group demonstrated significantly higher reproduction and transfer scores.

HALPAIN, DALE R.; GLOVER, JOHN A.; & HARVEY, ANNE L. Differential effects of higher and lower order questions: Attention hypotheses. *Journal of Educational Psychology*, December 1985, *77*, 703-715.

Utilizes five experiments in a report examining: 1) whether different amounts of attention are demanded by lower and higher order questions; 2) the effects of postquestions; and 3) the locus of effect of adjunct questions. Subjects for all experiments were undergraduates and numbered 13, 22, 16, and 14, respectively, for the first four experiments with 101 participants in Experiment 5. In the first experiment, subjects read a 1200-word essay divided into 50 paragraphs. For each paragraph, two questions were constructed, one higher level (Analysis) and one lower level (Knowledge). Questions were presented on a screen prior to each paragraph. Reaction times to a secondary probe task, a tone, were assessed. Reaction times were significantly longer during reading of paragraphs following higher order than lower order questions. In Experiment 2, reaction times were assessed to a secondary probe task placed within higher and lower questions. There was no significant difference in reaction times, indicating that attentional differences between question types occurred only during the reading of subsequent text. The next two experiments contrasted readers' reaction times during the reading of higher and lower order postquestions. Significantly longer reaction times were found for higher order questions. In Experiment 5, subjects were told that they would have to answer postquestions and reaction and inspection times were contrasted while they read the paragraphs preceding the postquestions. Further, the contrasting conditions were higher order questions only contrasted with only lower order questions and with control conditions. There were no significant differences among the conditions on either inspection or reaction times.

LEONARD, WILLIAM H., & LOWERY, LAWRENCE F. The effects of question types in textual reading upon retention of biology concepts. *Journal of Research in Science Teaching*, April 1984, *21*, 377-384.

Determines the effects of question types on comprehension when questions are interspersed throughout a science passage. Subjects were 383 students (mostly second-semester freshmen) enrolled in university introductory biology. Group 1 (54 students) read the text without interspersed questions; all other groups had interspersed questions. Group 2 (75 students) had 24 rhetorical questions; Group 3 (35 students) had 24 factual or recall questions; Group 4 (79 students) had 24 hypothesizing questions; and Group 5 (61 students) had 24 valuing questions. A final group of 61 had no reading passages. A 20-item multiple-choice test was given to all students immediately after reading, two week after, and nine weeks after. After the second test, all students received a 20-minute lecture on the subject of the passage. For immediate testing, there were no significant differences among groups. For two week delays, all groups reading with questions had mean scores lower than the no-questions group. At nine weeks, only the rhetorical questions group scored lower than the no-questions group. Students not reading the passage had significantly lower scores than groups reading the passage in all but five cases: rhetorical, factual, and valuing questions at two weeks and questions group at nine weeks. Trend analysis suggested that there were no differences between overall learning of the hypothesizing, factual, and valuing questions groups compared to the no-question group.

SPRING, CARL; SASSENRATH, JULIUS; & KETELLAPPER, HENDRIK. Ecological validity of adjunct questions in a college biology course. *Contemporary Educational Psychology*, January 1986, *11*, 79-89.

Examines the effect of adjunct questions in a college biology course. Using a double-crossover design, subjects were assigned to an experimental group that was instructed to use adjunct questions during the first or second halves of the course. Five types of comprehension scores were obtained on the midterm and the final exams. Results of the midterm exam were mixed. This was attributed to the failure of some students to follow prescribed instructions. Final exam results indicated significant differences for all five types of comprehension questions for those students using adjunct questions.

HAMILTON, RICHARD J. A framework for the evaluation of effectiveness of adjunct questions and objectives. *Review of Educational Research*, Spring 1985, *55*, 47-85.

Reviews literature dealing with the effectiveness of adjunct questions and objectives in a prose learning setting. The review includes the identification of processes responsible for the effects of the adjunct aids, an explanation of unusual and/or discrepant results, and recommendations for future research.

HAMILTON, RICHARD J. Role of adjunct questions and subject ability levels on the learning of concepts from prose. *American Educational Research Journal*, Spring 1986, *23*, 87-94.

Evaluates the effects of application adjunct questions on the retention and application of concepts from a prose passage. A 2 x 4 factorial design was employed in which two levels of student ability were crossed with four question conditions: matched adjunct questions, unmatched adjunct questions, regular control, and special control (which received additional instructions about the importance of focusing on the concepts). Seventy-two undergraduate students were randomly assigned to one of the four conditions. Subjects read an eight-paragraph passage on psychological concepts. Fourteen multiple-choice adjunct questions, which asked the subject to select an example of the concept or a critical attribute, were interspersed throughout the passage, two after each paragraph except the introduction. Matched questions consisted of sets of variable attributes similar to the text; the unmatched alternatives contained different sets of variable attributes. Three tests were used to separate subjects into above- and below-average ability groups: prior knowledge, mental skills, and reading ability. A 28-item multiple-choice posttest consisting of novel criterion questions was administered. High ability subjects performed better on the criterion questions than low ability subjects across all treatments. Matched questions produced higher performance on the unmatched criterion questions than unmatched questions. However, application adjunct questions did not produce significantly higher performance than no-question treatments.

WIXSON, KAREN K. Level of importance of postquestions and children's learning from text. *American Educational Research Journal*, Summer 1984, *21*, 419-433.

Investigates the effects of postquestions directed at information of differing levels of importance on children's understanding and recall of expository text. Subjects were 172 fifth-grade pupils who were average and above average readers. Subjects were randomly assigned one of three expository passages to read. Postquestions relevant to selected idea units included textually explicit and implicit questions. Sets of postquestions were directed at the most important, the next most important, the least important, or text-irrelevant information. One week later, subjects wrote free recalls of the passages they had read and answered all levels of the questions. A repeated measures ANOVA of the recall data revealed that subjects in each treatment question group recalled significantly more from the level of importance. Also, subjects from each question group recalled more information from the level about which they were questioned than the subjects from any of the other question groups. A repeated measures ANOVA of the answer data yielded similar results.

WILHITE, STEPHEN C. The relationship of headings, questions, and locus of control to multiple-choice test performance. *Journal of Reading Behavior*, 1986, *18*(1), 23-39.

Examines the effects of headings and adjunct questions embedded in expository text on the delayed recall of multiple-choice text performance of 64 college students differing in locus of control. Subjects were classified as internal or external locus of control on the basis of the *Adult Nowicki-Strickland Internal-External Control Scale*. Subjects read a 2,136-word chapter with or without nine topic headings appropriately spaced within the text. Adjunct questions were a within-subject variable, half the subjects receiving adjunct questions for four the nine topics, the other half receiving questions for a different four topics. One week after reading, subjects completed an 18-item test of main ideas and details of the passage. Using performance on the *Wide Range Vocabulary Test* as a covariate in an ANOVA, it was found that headings facilitated comprehension and that there was not a significant main effect for adjunct questions or locus of control. There was a significant locus of control by questions interaction, however, with questions facilitating performance of internal locus of control subjects.

GLYNN, SHAWN M.; BRITTON, BRUCE K.; & MUTH, K. DENISE. Text-comprehension strategies based on outlines: Immediate and long-term effects. *Journal of Experimental Education*, Spring 1985, *53*, 129-135.

Examines the effect of giving 44 college students a topically relevant or a topically irrelevant outline prior to studying an instructional text. Subjects were given the outline and asked to generate propositions about the topics by drawing upon their existing knowledge. After reading, half the students' written recalls were cued by providing them with the hierarchically organized topical outline they had seen previously; the other half received no outline. Recall was tested immediately and six weeks later. Meaningful recall was higher when relevant context was activated prior to reading, when relevant cues were available at retrieval, and when recall was immediate rather than delayed. Relevant cues were more important at delayed retrieval.

MAYER, RICHARD E.; DYCK, JENNIFER L.; & COOK, LINDA K. Techniques that help readers build mental models from scientific text: Definitions pretraining and signaling. *Journal of Educational Psychology*, December 1984, *76*, 1089-1105.

Reports the results of a series of three experiments that investigated the effects of text-provided aids on readers' comprehension of scientific passages. Two kinds of text aids were examined: 1) defining key terms; and 2) signaling, or highlighting key relations. Text samples were limited to scientific passages that described cause-effect systems. Dependent measures consisted of free written recall of passages read and a problem-solving test that assessed creative application of principles from the reading. Subjects were college females with little scientific background. Experiment 1 investigated definitions pretraining; Experiment 2 looked at training in signaling; and Experiment 3 examined both in combination. Significant differences were found in both recall and problem solving favoring groups that received the text aids.

FOX, BARBARA J., & SIEDOW, MARY DUNN. An investigation of the effects of note taking on college students' recall of signalled and unsignalled text. *Journal of Research and Development in Education*, Spring 1985, *18*(3), 29-36.

Determines the effects of signalling and notetaking on recall of information and top level structure of text under immediate and delayed conditions. Subjects, 180 undergraduates enrolled in content area reading courses, were classified as good (38 subjects), average (86 subjects), and below average (56 subjects) on the *Nelson Denny Reading Test, Form E*. Subjects were randomly assigned to four treatment conditions: signals/notes; signals/no notes;

no signals/notes; and no signals/no notes. Data were collected in two class sessions one week apart. Subjects wrote immediate recalls in the first session and delayed recalls in the second session. Recalls were analyzed for amount of information and for use of top level structure. Total Recall Score (TRS) consisted of the total number of propositions recalled. A Central Idea Score (CIS) represented a weighted score sensitive to text structure. For the TRS, significant effects were found for treatment, and for recall condition. For the CIS, significant effects were found for reading ability and recall condition. A significant interaction was found for recall with treatment. For the TRS, good readers in the signals/notes condition outscored others in both immediate and delayed conditions. For the CIS, good and below average readers in the signals/notes condition outperformed all readers in the no signals/no notes condition. Average readers in the signals/notes treatment performed better than average or below average readers in the no signals/no notes treatment. Signalling was more important for immediate than for delayed recall.

HAHN, AMOS L. Knowledge of the criterion task: Its effect on the summarizing process. *Reading Improvement*, Spring 1985, *22*, 58-64.

Investigates the effect that "knowledge of the criterion task" has when 54 fifth-grade subjects (average to above average in reading performance) read one of two expository texts and then generated a written summary. In addition, subjects were asked to write responses to two questions: what is a summary? and what things did you do to write a summary? Subjects were randomly assigned to three treatment conditions: an explicit knowledge condition, where subjects were told what to include in a summary; a vague knowledge condition, where students were told they would be writing a summary, but given no additional support; and a no-knowledge condition, where the students were not told they would be writing a summary. Subject summaries were scored against previously identified importance ratings. No significant differences were found among the three groups, with all groups identifying approximately the same number of information units. Responses to the two questions suggested that these fifth graders possessed vague knowledge of the summarizing process.

LANGER, JUDITH A. Learning through writing: Study skills in the content area. *Journal of Reading*, February 1986, *29*, 400-406.

Examines the manner in which six students approached three common study tasks: completing short answer study questions, taking notes, and writing essays. The six students were high school juniors with average to above average grades. In individual sessions, one per week, each student was asked to read a different 1,000-word social studies passage from their 11th grade text. After reading, a test of the passage content and organization was administered. Then, each student was asked to study the material by completing prepared study questions, taking notes, or writing an essay. Another test was then given three days later. Study questions produced the least amount of writing, the essay the greatest amount. The varying assignments did result in differences in the types of reasoning employed, though evaluating schemata was the most prevalent in all three study tasks. Topic knowledge increased between tests to a greater extent when students wrote essays and least from answering study questions.

MARINO, JACQUELINE L.; GOULD, SANDRA M.; & HAAS, LESTER W. The effects of writing as a prereading activity on delayed recall of narrative text. *Elementary School Journal*, November 1985, *86*, 199-205.

Investigates the effects of a prereading writing activity on delayed recall. Four fourth-grade intact classes served as the sample. Two classes were randomly assigned to an experimental writing task that was related to a subsequent reading assignment. The two control classes were assigned a nonrelated writing task but participated in the same reading assignment. One day later, a framed-recall test was used to assess comprehension. A treatment-by-

levels ANOVA design revealed significantly higher recall for pupils who participated in the text-related writing task. Although interaction effects were nonsignificant, follow-up comparisons revealed that the low ability experimental subjects scored significantly better than the low ability control subjects on the recall test.

SMITH, EDWARD E., & GOODMAN, LORRAINE. Understanding written instructions: The role of an explanatory schema. *Cognition and Instruction*, Fall 1984, *1*, 359-396.

Compares, in three experiments, the effects of three different sets of instructions for assembling an electrical circuit. The 32, 30, and 40 subjects in the three respective experiments were all adult females. The general task in the first two experiments was to read one of three sets of directions, construct an electrical circuit from those directions, and answer questions regarding the construction of the circuit. Experiment 2 differed from Experiment 1 only in the nature of the questions asked after constructing the circuit. Experiment 3 was similar; however, the subjects' transfer learning was assessed by asking them to construct a second and different electrical circuit. The three types of directions were; 1) linear, step-by-step statements; 2) structural, the steps plus an explanatory schema that emphasized the structure of the circuit; and 3) functional, steps plus an explanatory schema that emphasized the function of the circuit. In both Experiment 1 and 2, subjects using the functional and structural directions read the steps more rapidly and recalled them more accurately than subjects using the linear directions. In Experiment 3, subjects using the structural or functional instructions assembled the second (transfer) circuit more rapidly than the subjects using the linear instructions.

GICK, MARY L., & HOLYOAK, KEITH J. Schema induction and analogical transfer. *Cognitive Psychology*, January 1983, *15*, 1-38.

Tests the predictions that analogies will be noticed on the basis of semantic retrieval cues and that the induction of a general schema from concrete analogs will foster analogical transfer. The research is reported in two parts with three experiments presented in each part. In all experiments, subjects were 10th and 12th graders and numbered 69, 88, 66, 98, 143, and 189, respectively. Subjects first read one or more short stories giving a problem and its solution and then were asked to solve a different but analogous transfer problem. In the three experiments of Part I, a single story was read with summarization instructions, a verbal statement of the underlying principle, or a diagrammatic representation of it. None of these devices facilitated analogical transfer. In Part II, two prior analogs were given, and the results demonstrated that students could derive a problem schema as an incidental product of describing the similarities of the analogs. The quality of the induced schema was predictive of subsequent transfer performance. The same verbal statements and diagrams which had failed to produce transfer from a single analog proved successful when paired with two.

GIESEN, C., & PEECK, J. Effects of imagery instruction on reading and retaining a literary text. *Journal of Mental Imagery*, Summer 1984, *8*, 79-89.

Investigates the effects of imagery instruction for adult readers. Subjects were 47 Dutch female college students who were randomly assigned to either imagery instruction or a control condition. All subjects were asked to read the same short story and complete a comprehension test containing explicit questions, inference questions, contradiction questions, and spatial questions. Informal measures were also used to measure individual differences in imagery, verbal ability, and cognitive style. A one-way multivariate analysis of variance found that imagery instruction significantly improved performance on the concrete-explicit, contradiction, and spatial questions but failed to reach significance for the inference questions.

AMLUND, JEANNE T.; GAFFNEY, JANET; & KULHAVY, RAYMOND W. Map feature content and text recall of good and poor readers. *Journal of Reading Behavior,* 1985, *17*(4), 317-330.

Investigates the effects of map feature content on the text recall of subjects of varying reading abilities. Experiment 1 explored the use of mimetic map features. Subjects were 66 fifth- and sixth-grade pupils identified as being below average on the reading subtests of the *California Achievement Test.* Twenty-two students were assigned to each treatment condition: label map, symbolic map, or mimetic map. Subjects listened to a story and answered questions. Cued recalls were scored for features recalled. Subjects who studied the mimetic map recalled more map-featured text information than did subjects from other groups. Feature items were better recalled than nonfeature. In Experiment 2, 80 fifth- and sixth-grade good and poor readers were given two types of map feature content, mimetic and label. Design was a 2 (reading skill level) x 2 (map feature content) x 2 (cued recall) factorial. Significant main effects were found for reading skill and type of recall, but not for map condition. No interactions were significant. Feature items were better recalled than nonfeature items. Good readers outperformed poor readers. Results suggest support for the conjoint retention hypothesis that dual coding of spatial and verbal information enhances recall.

MUIR, SHARON PRAY. Understanding and improving students' map reading skills. *Elementary School Journal,* November 1985, *86,* 207-216.

Reviews the research literature related to children's map reading skills. Building upon the developmental theories of Piaget and Bruner, the author identifies spatial conceptual skills related to map reading. Educational problems contributing to poor map reading instruction are identified and recommendations are provided as to the curriculum and methods of instruction.

PETERS, ELLEN E. & LEVIN, JOEL R. Effects of a mnemonic imagery strategy on good and poor readers' prose recall. *Reading Research Quarterly,* Spring 1986, *21,* 179-192.

Evaluates the effects of mnemonic imagery training on good and poor readers' recall of short and long passages. Subjects in Experiment 1 were 38 good and 38 poor readers. Mean vocabulary scores of the two groups on the *Nelson Reading Test* were 9.9 and 9.2, respectively, and mean comprehension scores were 10.0 and 5.7, respectively. Subjects read 12, 50-word passages about famous people. Half of each group were taught a two-stage mnemonic imaging strategy: changing an unfamiliar name into a familiar keyword and forming an interactive image that associated the keyword with an accomplishment associated with the name. The other half were told to use their own best method to recall the names and accomplishments of the people about whom they were to read. Recall measures assessed central and incidental information. Delayed retention was assessed one week later. On both immediate and delayed tests, both good and poor readers taught the mnemonic imagery strategies recalled more central information than the control subjects. Recall of incidental information was not significantly affected by the mnemonic procedures. Subjects in Experiment 2 were seventh graders, 58 scoring above the 65th percentile on the *Comprehensive Test of Basic Skills* and 58 scoring below the 35th percentile. These subjects read 200-word passages similar to textbook reading. The two mnemonic methods employed were the keyword method of Experiment 1 and underlining the central information. Four measures of comprehension were collected. Subjects, both good and poor readers, in the experimental method generally recalled more central information.

BECK, CHARLES R. Visual cueing strategies: Pictorial, textual, and combinational effects. *ECTJ*, Winter 1984, *32*, 207-216.

Examines the effectiveness of visual cueing methods for 256 fourth-graders divided into low and average reading ability groups on the basis of standardized reading tests. Within groups, subjects were randomly assigned to treatments: noncues, pictorial cues (arrows and labels); textual cues (underlining and colored type); and a combination of pictorial and textual cues. Each consisted of an identical set of 12 pictures and passages. Passages, at middle fourth-grade reading level, were placed below the pictures. The appropriate cueing method highlighted text or picture, a combination, or no highlighting. Each treatment group worked an assignment sheet of 12 sentence completions, one for each passage, and completed an achievement posttest consisting of 24 multiple-choice items the following day. Significant main effects were found for cueing and noncueing conditions and for reading aptitude, with average readers having higher mean scores on all cueing strategies. Both ability groups scored higher on the combinational cues than the noncues. Supplementary analysis indicated significant differences based on arrow and label conditions, with label groups outscoring arrow groups.

POULTON, E.C. Geometric illusions in reading graphs. *Perception & Psychophysics*, June 1985, *37*, 543-548.

Contrasts various presentations of graphs, in two experiments, in order to investigate methods of decreasing illusions known to affect graph interpretation. All subjects were adults, ranging in age from 20 to 67. In Experiment 1, subjects were presented a graph containing five sloping (left up to right) functions (lines) printed with calibrations on all four sides or with the calibrations on only the left and bottom. In Experiment 2, all subjects viewed eight graphs, and all the graphs depicted only one function. Four of the graphs contained calibrations on all four sides, four had calibrations on only the left and the right. The graphs were projected onto a screen and the subjects' task was to read points at various positions on the functions. The dependent variable in both experiments was number of errors. It was found that the direction of the errors made corresponded to the direction of the slope of the line, and the size of the error increased with the distance of the point from the calibrated edge. It was also found that increasing the number of functions (sloping lines) between the point and the correct reading on the calibrated edge increased the size of the illusion.

GHATALA, ELIZABETH S. When does internal generation facilitate memory for sentences? *American Journal of Psychology*, Spring 1983, *96*, 75-83.

Reports the results of two studies designed to assess the effects of generation on memory of sentences. In Experiment 1, 40 sixth- and seventh-grade pupils were randomly assigned to one of two treatments. In one treatment, subjects read sentences with a blank in place of the last word and supplied the missing word; in the other treatment, subjects read the intact sentences and made judgments on the meaningfulness of the last words. Each treatment included an equal number of determined (highly predictable) and undetermined (not predictable) sentences. On a retention test, subject nouns from the sentences were presented orally one at a time and the pupil responded with the last word in the sentence. A 2 x 2 analysis of variance found significant differences for the main effects of encoding condition (generation higher than judgment), sentence type (determined higher than undetermined), and a significant interaction between the two main effects. Experiment 2, also conducted with 40 sixth- and seventh-graders, used the same materials and procedures except for the retention test which was modified so that children recalled the subject noun after being given the last words from the sentences. The same pattern of results were found for this backward-recall test as were found on the forward test in Experiment 1.

ELLIOTT, STEPHEN N. Knowledge of the interactive effects of prose learning variables on ease of recall. *Reading Improvement*, Spring 1984, *21*, 37-44.

Explores what sixth graders know about prose learning variables such as length of passage, prior knowledge, and note-taking, and how they evaluate the impact of these variables on memory for prose. Subjects were 24 children from three schools. Subjects read one of two versions of an expository text similar in readability, length, and content, but organized according to different top-level structures, adversative or attribution. After a 48 hour delay, children completed written recalls, followed by an individual administration of five hypothetical learning situations where a study strategy and/or a person or task variable was manipulated: 1) length of passage x note taking; 2) familiarity with passage x outlining; 3) organization of passage x rereading; 4) type of recall x note-taking; and 5) experience with passage x underlining. Subjects were asked to predict which hypothetical pupil would have the best recall of the passage just read and to justify their predictions. Subjects' predictions were compared to the consensus rankings of a panel of graduate students. Subjects' performances on the five learning situations were positively correlated ($r = .23$) with total recall scores. Subjects had over 80% agreement with the graduate students on two of the hypothetical situations, predicting logical relations between prose recall and prior knowledge and outlining. Subjects also consistently responded that taking notes would aid memory and that multiple-choice tests were easier than essays.

MEAZZINI, PAOLO. Reading errors: Assessment and behavioural intervention. *School Psychology International*, January-March 1985, *6*, 34-38.

Investigates the use of fading as a procedure in eliminating reading miscues which are the result of graphic similarity between letters. Subjects were three males between the ages of 7 and 8.6 whose intelligence quotients were within mildly retarded ranges (mean IQ = 55), and who were mainstreamed in regular classes. Pairs of letters chosen for treatment were F-E, and P-R. Sets of 10 words were developed for each letter, with half composed of words with all capital letters and half with upper and lower case. Cards were shown for five seconds, and subjects read the words. After a baseline period of two sessions, fading was introduced, with a portion of the letter stroke colored conspicuously. Gradually, degree of color shading was changed and then eliminated. Children then read a selection of words with E, F, R, and P in other text. Follow-up sessions were scheduled three weeks later. Reading performance improved with first introduction of fading. Performance stabilized during later fading stages and reversal and generalization to text reading, and did not drop over time.

SORACI, JR., SAL A.; MURATA-SORACI, KIMIYO; & BAUMEISTER, ALFRED A. The facilitation of reading comprehension in learning delayed subjects by a computer-assisted sequencing task. *Reading Improvement*, Fall 1985, *22*, 245-252.

Queries whether reading comprehension can be facilitated by an attentional task demanding active utilization of sequential information. Six learning delayed adolescents, ages 13 to 18, enrolled in a special summer class, served as subjects. Participants were one or two years below comprehension levels of normal readers in their grades. A series of sequence tasks was presented to each subject via microcomputer. Probe tests consisting of 10 questions based on short passages were given. Questions were both factual and sequential in nature. Data from three subjects are presented. Results were interpreted as suggesting a facilitating effect on comprehension of the attention task.

YU, BOLIN; ZHANG, WUTIAN; JING, QICHENG; & PENG, RUIXIANG. STM capacity for Chinese and English language materials. *Memory & Cognition*, May 1985, *13*, 202-207.

Summarizes 14 studies carried out in China and the U.S.A. that compare short term memory (STM) using Chinese characters and English language material as stimuli. The in-

troduction to the paper provides a clearly written description of Chinese characters and their use and interpretation. The review discusses the chunking theory of STM, the articulatory loop theory, and the acoustical encoding aspects of STM. On the basis of the studies reviewed, concludes that chunks play the same role in learning Chinese language materials that they do in English language materials.

SPURLIN, JONI E.; DANSEREAU, DONALD F.; LARSON, CELIA O.; & BROOKS, LARRY W. Cooperative learning strategies in processing descriptive text: Effects of role and activity level of the learner. *Cognition and Instruction*, Fall 1984, *1*, 451-463.

Examines the effects on learning of four different techniques of group learning and compares group learning to individual study techniques. Subjects were 126 college students. All groups in the group learning situations had two members. One member of the pair served as an oral summarizer and the other member served as either an active facilitator or passive listener. The five experimental groups were: fixed role/summary plus facilitation activity, fixed role/summary only, alternating role/summary plus facilitation, alternating role/summary only, and individual study. All subjects read two 2500-word scientific texts. After every 500 words, one member of the pair summarized orally what had been read. In the summary plus facilitation method, the listener facilitated the summary by pointing out important information that had been omitted in the oral summary or had been stated incorrectly, and by stating methods that might help both members to remember the material. In the summarizing only method, the listener only listened to the partner's oral summary. In the fixed conditions, the same member of the pair summarized the reading, while the other listened or facilitated. In the alternating role condition, the two members switched roles after each segment of the text. The individual study group was told to use their normal strategy for processing text. After reading, all subjects were asked to recall main ideas and details and to complete a learning questionnaire. Data were analyzed using ANCOVA, covarying on scores on the *Delta Vocabulary Test* and the *Group Embedded Figures Test*. Significantly more main ideas were recalled by subjects in the facilitation method than in the summary method. Summarizers significantly outscored listeners and the group that alternated. No significant effects for details were found. Main ideas were better recalled by paired subjects than subjects studying individually. No significant effects for details were found.

HARE, VICTORIA CHOU, & BORCHARDT, KATHLEEN M. Good and poor comprehenders' detection of errors revisited. *Journal of Educational Research*, March/April 1985, *78*, 237-241.

Replicates a previous comprehension monitoring study with 15 good and 15 poor comprehenders selected from seventh and eighth grade parochial pupils equally divided by grade and sex. Good comprehenders read from one to three grades above grade placement; poor comprehenders read from two grades below to current grade placement. Four passages were developed, two with four critical word changes which were inconsistent with the general text sense. Each subject read one unaltered and one altered passage. Children were then told that a passage contained words which did not fit and were encouraged to locate the words. Differences were found between the good readers and poor readers in this study and in the replicated study. In both, results favored good readers over poor readers, but in the current study, children rated altered passages as no more difficult to understand than unaltered, a difference from the earlier study. Few subjects in the current study could spontaneously point out text inconsistencies. With explicit directives to locate anomalous words, good readers discovered more errors than poor readers.

NIST, SHERRIE L., & HOGREBE, MARK C. The effect of passage access and time restrictions on the comprehension and retention of connected discourse. *Forum for Reading*, Fall/Winter 1985, *17*, 10-16.

Studies the effects on reading comprehension of variations in time allowed to read and ability to access text when answering questions. Subjects were 128 college freshmen enrolled in special reading classes due to low SAT scores. Subjects read a 1,000-word passage on which comprehension was assessed with 16 questions answered immediately after reading. Retention was assessed with the same 16 questions one week later. Half the subjects read the passage with no time limits, half with a 15-minute time limit; half of each of these two groups was allowed to look back at the text when answering the comprehension questions, half was not allowed to look back. On the comprehension test, there was no significant difference between the look back and the nonlook back groups, but the groups with unrestricted time limits did score significantly higher. There was no significant difference between comprehension and retention scores, and none of the interaction effects was significant.

GLOVER, JOHN A.; RANKIN, JOAN; LANGNER, NANCY; TODERO, CATHY; & DINNEL, DALE. Memory for sentences and prose: Levels-of-processing or transfer-appropriate-processing? *Journal of Reading Behavior*, 1985, *17*(3), 215-234.

Reports the results of four studies designed to contrast the levels-of-processing theory with the transfer-appropriate-processing theory. Subjects in all studies were undergraduate college students. Experiment 1 employed a within-groups design to contrast three levels of processing (deep, intermediate, and shallow) and two question positions (before and after reading) on subjects' memory for sentences. Scores on a recognition test served as the dependent variable. Results yielded significant effects for question position, type of sentence-question combination, and a significant interaction. Experiment 2 replicated Experiment 1 with a between-group design. Results were similar to those obtained in Experiment 1. Experiment 3 used the same stimuli materials and procedures as Experiment 2 except that a free recall posttest was employed. Results agreed in some respect with the two previous experiments but differed in other respects. Experiment 4 extended the analysis from memory of sentences to memory for brief prose passages. The results of Experiment 4 differed from those observed in Experiments 1-3. Overall, the results of the four experiments did not clearly support one processing theory over the other but revealed mixed support for both viewpoints.

SUMMERS, WALTER V.; HORTON, DAVID L.; & DIEHL, VIRGINIA A. Contextual knowledge during encoding influences sentence recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, October 1985, *11*, 771-779.

Reports the results of two studies which examined the effects of title availability on encoding and recall. In Experiment 1, 89 undergraduate students were randomly assigned to one of five experimental conditions: 1) title provided before reading; 2) title provided before reading plus directions to relate each sentence to the title; 3) title provided after reading; 4) no title provided and passage in normal order; and 5) no title and passage in scrambled order. Passages from Bransford and Johnson served as stimulus materials. The dependent measure consisted of 48 statements, 12 of which came from the passages. Subjects classified them as old or new. Planned comparisons of the hits and rejections found that subjects receiving the title-before conditions scored significantly higher. Adding explicit directions about relating sentences to the title did not affect performance. Experiment 2 limited the treatment conditions to title before and no title, and reduced the number of recognition test sentences so only sentences from the passages were included. Again, title-before subjects scored significantly higher, suggesting that access to the title influences encoding.

PATTON, BONNIE L., & LEFTON, LESTER A. Facilitation without inhibition. *Bulletin of the Psychonomic Society*, May 1985, *23*, 191-194.

Reports the results of two identical studies designed to replicate earlier research on semantic memory. Undergraduate psychology students were required to complete a lexical decision task structured to examine the role of facilitation and inhibition in the extraction of information. Both the duration and type of prime words (words preceding the target words) were manipulated. Results failed to support previous research and called into question the importance of inhibition in semantic memory.

KENNEDY, ALAN, & MURRAY, WAYNE S. Inspection times for words in syntactically ambiguous sentences under three presentation conditions. *Journal of Experimental Psychology: Human Perception and Performance*, December 1984, *10*, 833-849.

Reports the results of two experiments which examine the effects of text presentation on readers' comprehension and processing. Experiment 1 was comprised of three presentation conditions (sequential, cumulative, and central), crossed with four counterbalanced sets of experimental items, crossed with two levels of sentence length (short vs. long), crossed with two levels of syntactic ambiguity (late vs. early closure). College students read sentences under self-paced conditions on a computer-controlled display screen and responded to questions. Isolated reaction times were obtained and analyzed. Results indicate that sensitivity to syntactic ambiguity varied with mode of presentation. Experiment 2 essentially replicated Experiment 1 with the addition of measurement of subjects' eye movements. Findings were similar.

JACOBY, LARRY L. Remembering the data: Analyzing interactive processes in reading. *Journal of Verbal Learning and Verbal Behavior*, October 1983, *22*, 485-508.

Reports the results of four experiments conducted with undergraduates enrolled in an introductory psychology class. Subjects numbered 16, 40, 24, and 24, respectively. Experiments investigated the interactive processes in reading and varied the balance of data-driven and conceptually-driven processing. Target words were the second words of antonym pairs. Subjects read a word without context, read a word in the context of its antonym, or generated a word as an antonym of a context word. In a fourth condition, neither member of an antonym pair was present. For all conditions, the second member of each antonym pair was presented for a test of perceptual identification or a test of recognition memory or both, varying with the experiment. Perceptual identification reflected differences in data-driven processing while recognition memory performance reflected differences in conceptually driven processing. Reading a word in context aided later recognition memory, but was not as important in perceptual identification. Reading a word in context produced a higher probability of subsequent perceptual identification than did generating the word. In Experiment 4, an incongruent context condition was introduced. Perceptual identification of no context and new words was comparable to the other experiments; however, congruent context was more significant in this experiment than in the others. Visual analysis of words read with incongruent context was more extensive than that of words with no context.

HESS, THOMAS M. Aging and context influences on recognition memory for typical and atypical script actions. *Developmental Psychology*, November 1985, *21*, 1139-1151.

Reports the results of two studies which examine the effects of age differences and context information on prose memory. In Experiment 1, 40 older adults and 40 young adults (undergraduates) were asked to read a series of 10 scripted activities containing both typical and atypical actions and then asked to identify, from a list, which actions were explicitly mentioned in the passages. Delayed recall was assessed three days later. Analysis of variance

revealed that the older subjects had lower overall recognition memory. Age interacted significantly with both typicality and interval. Experiment 2 attempted to simulate aging effects on young adults. The basic design was similar to Experiment 1. One-half of the subjects received a single script and the other half received three scripts to simulate the aged condition. Results were similar to the first experiment. Significant effects were observed for repetition and its interaction with typicality, with the repeated script group exhibiting lower overall performance and a reduced typicality effect. Significant effects were also obtained for interval, typicality, and their interaction.

GRAF, PETER & LEVY, BETTY ANN. Reading and remembering: Conceptual and perceptual processing involved in reading rotated passages. *Journal of Verbal Learning and Verbal Behavior*, June 1984, *23*, 405-424.

Reports three experiments investigating the conceptual and perceptual processing differences involved in reading rotated typescript and normally oriented typescript for both easy and more difficult passages. Subjects were university students, 24 in Experiment 1, 32 in Experiment 2, and 32 in Experiment 3. Variables measured were reading speed, detection of typographical errors, answers to comprehension questions, and time to reread a passage. In Experiment 1, passages in normal orientation were read faster than rotated passages, easy passages were read faster than difficult, easy passages required less pronunciation assistance than difficult, errors were detected more readily in normal than in rotated orientation, and in more difficult than in easy passages. Question answering performance was superior for passages read in rotated orientation, and for easy rather than difficult passages. Experiment 2, compared reading of normal and rotated passages under two conditions: reading-only and reading and detection of errors, and replaced questions with a second reading of each passage. Subjects read rotated passages more slowly, and completed read-only tasks faster than read and error detection tasks. More errors were detected in normal than in rotated tasks. Prior reading of rotated text facilitated rereading, especially in the delayed rereading condition. Experiment 3 replicated the transfer effects for immediate versus delayed rereading of 2 and investigated whether these transfer effects were attributed to a specific type of processing. Reading speeds in normal orientation were similar for the various text versions, but in rotated typescript, times were slower, and varied with typefont. Paraphrase versions were read more slowly on the second reading, both in immediate and delayed conditions.

O'BRIEN, EDWARD J., & MYERS, JEROME L. When comprehension difficulty improves memory for text. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, January 1985, *11*, 12-21.

Reports two experiments investigating the relation between the comprehensibility of a text and memory. In the first experiment, undergraduates ($n = 20$) were timed as they read 24 brief passages. In 16 of the passages a target word was either predictable or unpredictable from the previous context, and also differed only by a single letter (fires/fines). After reading each passage, subjects responded to four probes as to whether the words appeared in the passage. The probes were the target word, a true nontarget, a false related word, and a false unrelated word. A comprehension question was asked about each passage. Subjects took longer to read lines containing an unpredictable word as compared to a predictable word ($p < .001$). For the probes, unpredictable target words were recognized more quickly ($p < .001$), and made fewer errors on target probes than true nontargets ($p < .05$). In the second experiment, the same procedures were followed with 22 subjects, except that in addition a free-recall task was introduced. Results in the second experiment paralleled those in the first. Recalls were scored for number of idea units recalled prior to the target word, units containing a target word, and units after the target word. More units were recalled from unpredictable than predictable passages ($p < .005$), and units containing an unpredictable target word were recalled more often than those containing a predictable one ($p < .005$). Idea units occurring prior to an unpredictable target also demonstrated a recall advantage ($p < .005$).

IV-6 Visual perception

SIMONS, HERBERT E., & GRISHAM, J. DAVID. Vision and reading disability: Research problems. *Journal of the American Optometric Association*, January 1986, *57*, 36-42.

Reviews and analyzes the methodological problems of studies of the relation of vision and reading difficulty. Analyzes those procedures that lead to false positive and false negative findings. Topics included in the analysis of false positive findings include subject selection, criteria, failure to account for corrected visual problems, sample sizes, and use of unselected comparison groups. Included in the analysis of false negative findings are the topics experimenter expectations, statistical tests, use of clinical samples and failure to account for alternative hypotheses.

CASTNER, HARRY W., & EASTMAN, J. RONALD. Eye-movement parameters and perceived map complexity – I. *The American Cartographer*, October 1984, *11*, 107-117.

Presents an extensive review of research findings into eye movements when the task constraints are absent (spontaneous viewing) and when the viewer has some specific goal in mind (task-specific viewing). Research on spontaneous viewing is discussed under three major factors which appear to affect viewing: 1) physical properties such as size, shape, or color; 2) gestalt properties, those interactive physical properties of stimuli which are seen in aggregate; and 3) cognitive properties, arising from the viewer's response to the stimulus and situation. Task-specific viewing are the movements undertaken by the eyes during visual problem solving. Two additional major topic headings include Fixations and Changes of Fixation. It is concluded that eye movements are an outward manifestation of visual/cognitive processing. Implications for cartographic research are drawn.

CASTNER, HENRY W., & EASTMAN, J. RONALD. Eye-movement parameters and perceived map complexity – II. *The American Cartographers*, April 1985, *12*, 29-40.

Studies fixation duration and interfixation distance in assessing the properties of maps. Subjects were 60 undergraduates at a Canadian university who were randomly assigned to Group A (n = 22) or Group B (n = 38). Twelve test maps were prepared for viewing. Group A subjects viewed a map for six seconds and then were asked to rate its visual complexity on a 5-point scale. Group B subjects first rank-ordered the maps from least to most visually complex and then rated the difference between each adjacent pair of maps. Frequency distribution of fixation and interfixation distances of Group A subjects were analyzed. For simplest maps, fixations were more widely spaced with durations which indicated rapid access of information from the display; for complex maps, fixations were more closely spaced and of durations which indicated depth of stimulus-information processing.

CHASTAIN, GARVIN. Directional letter-by-letter analysis and the word-superiority effect. *Memory & Cognition*, March 1984, *12*, 195-201.

Uses a letter search paradigm in three experiments to test the word-superiority effect. All subjects were college students, 32, 20, and 10 in the three respective experiments. Subjects in all experiments viewed word or nonword trigrams that were presented on a tachistoscope and indicated the presence or absence of a target letter and whether the trigram was or was not a word. The trigrams were orthographic (CVC) and nonorthographic (CCV and VCC). Trigrams were presented in Experiment 1 in one of four forms: normal orientation and order, normal orientation but reversed order, reversed orientation but normal order, reversed orientation and order. Only the two normal orientation forms were used in Experiment 2. Experiment 3 varied in that each trigram appeared on two sides of the tachistoscope, with its

rightmost letter in the center on one side and its leftmost letter in the center on the other. This was done to ensure that letters were being examined in the desired order. Orthographic trigrams consistently facilitated recognition of target letters, but only if the trigram was presented in normal orientation. Concludes that this word-superiority effect was related to feature testing that may be carried out letter-by-letter, with more efficient testing when real words are employed.

CHASTAIN, GARVIN. Facilitation in letter detection with sequentially presented homophonic strings. *Journal of General Psychology,* January 1986, *113,* 75-80.

Examines the influence of consistent phonology on the letter-detection performance of college students. Eight subjects participated in a letter-detection task in which they were required to judge whether the letter M appeared in either the initial or final position of pseudoword quadrigrams. The letter N was used as a foil. Two sets of quadrigrams were used. The first pair was exposed for a brief fixed duration. The exposure of the second pair was adjusted so as to produce a desired accuracy level. Results found that significantly fewer errors were made on homophones and that homophones produced significantly greater accurate detection than nonhomophones.

WORRALL, RUSSELL S. Reading disability: A discussion of visual, auditory, and linguistic factors. *Journal of the American Optometric Association,* January 1986, *57,* 60-64.

Presents the results of a case study of a third-grade pupil who was experiencing chronic academic difficulties. Letter reversals and poor reading ability suggested a visual or visual-perceptual problem. Thorough testing of refraction, visual skills, and visual-perception revealed no significant visual function disorder. Rather, a linguistic skills deficit was identified as a possible cause of the academic problems. The diagnostic and predictive value of measures of visual-perception or visual-motor integration for reading or reversal problems are questioned. Guidelines are offered for conducting accurate diagnoses.

KORIAT, ASHER, & NORMAN, JOEL. Reading rotated words. *Journal of Experimental Psychology: Human Perception and Performance,* August 1985, *11,* 490-508.

Reports a series of experiments which investigate the effects of string length and degree of rotation on word recognition. Hebrew-speaking university students performed lexical decisions on Hebrew letter strings that appeared at different orientations. In the first study, length of the letter strings and angular deviations were varied systematically. In Experiment 2, the number of letters in a string was varied while holding its visual extent constant. The third study examined the combined effects of angular disorientation and string length by sampling a larger number of orientations. The final study contrasted two types of stimulus transformations, global and letter-upright. Overall findings showed a strong interaction between string length and orientation. At angular deviations of less than 60 from the upright, neither orientation nor string length had any effect. However, as angular deviations increased and string length increased, response times slowed and disorientation increased sharply.

RICHARDSON, GRAHAM. Word recognition under spatial transformation in retarded and normal readers. Journal of Experimental Child Psychology, October 1984, *38,* 220-240.

Compares the recognition of words in normal, reversed, and inverted orientation by normal and disabled readers. Subjects were fifteen 9- to 11-year-olds reading two grade levels below the norm and 15 normal readers matched for age, grade, school, and sex. Tests used in subject selection included the *Neale Analysis of Reading Ability,* the *Schonell Graded Word Spelling Test,* and four subtests from the WISC. Materials consisted of six lists of 20 three-letter words, each list differing in orientation (upright, inverted, reversed) and in degree of

familiarity (familiar, unfamiliar). Subjects were asked to read the lists as rapidly as possible. Time and number of words read correctly were obtained. When using the ratio of reading times as an index of reading difficulty under spatial transformation, findings demonstrated that poor readers' performance was less affected by spatial transformation than was normal readers' performance. However, when an analysis was done in terms of the ratio of the number of words read correctly, the opposite result was found. It was demonstrated that when word lists are equated for orthographic familiarity, the performances of poor and normal readers were equally affected by spatial transformation.

KOLERS, PAUL A.; DUCHNICKY, ROBERT L.; & SUNDSTROEM, GUNILLA. Size in the visual processing of faces and words. *Journal of Experimental Psychology: Human Perception and Performance*, December 1985, *11*, 726-751.

Reports a series of three experiments which investigated subjects' ability to distinguish or discriminate between objects when their size was changed. The objects used were unfamiliar faces and familiar words. Subjects for all experiments were university students. In the first experiment, subjects were presented 300 pairs of words, 300 pairs of slides of faces, and 40 buffer items. Five evenly incremented sizes of the faces and words were used. Subjects were to judge the recurrence of items without regard for size. Results showed that variations in size and, in some cases, the sequence of sizes, affected the recognition of faces but not words. Speed of responding was faster to words than to faces, with the trend for speed to decrease as the size of words increased. The second experiment used the same stimuli. However, subjects were required to take size into consideration in judging recurrence. Results found recognition was higher when a face reappeared in exactly the same size than when it appeared in a different size on the two presentations, whereas recognition of words was largely independent of size. The third experiment limited the number of stimuli and reduced the number of sizes from five to three. Findings were similar to those of the first two experiments. Overall results found that recognition of faces was always sensitive to size but recognition of words was indifferent to size.

PROCTOR, JANET E., & HEALY, ALICE F. A secondary-task analysis of word familiarity effect. *Journal of Experimental Psychology: Human Perception and Performance*, June 1985, *11*, 286-303.

Presents subjects with a 648-word passage in which the word "the" and 72 other lower frequency words containing a "t" were misspelled by substituting another letter for the "t". Twenty-four other filler words were also misspelled. There were two conditions in Experiment 1. In the first condition, "t" detection, each letter in every word was underscored with a dot. In the second condition, dot detection, each letter of the nontarget words was underscored with a dot, and the "t" in the target words was underscored with two dots. In the "t" condition the subjects' task was to indicate the presence of any word with a "t". In the dot condition, subjects were to indicate the word with the double dot. All subjects were told to read for comprehension. The story was presented on a CRT four words at a time at two exposure rates. Experiment 2 used the same materials and procedures, except that only half the subjects were told to read for comprehension. Experiment 3 was the same as Experiment 2, except that the stories were converted to a full page format and typed on regular paper. There were 32, 64, and 96 subjects in the respective experiments, all college students. Dependent variables were number of correct stimuli identified, response latencies, and comprehension. There were significantly more errors in the detection of "t"s than the detection of dots. Manipulation of the need to read and reading passages on paper instead of a CRT had no significant effect on these results.

AVANT, LLOYD L., & THIEMAN, ALICE A. On visual access to letter case and lexical/semantic information. *Memory & Cognition*, September 1985, *13*, 392-404.

Conducts four experiments to study the automatic processing of letter case and lexical/semantic information under forward and backward masking conditions that disallowed a visible image. There were between 32 and 80 subjects in each experiment, all college students. Stimuli were letter string pairs, with the letter case, upper or lower, for each pair either matched or mismatched. Also, the relation between the two strings varied six ways in terms of similarity in meaning and spelling. All stimuli were presented tachistoscopically. In Experiment 1, same-different responses were required. Stimuli were pairs of letter strings, one typed above the other; stimulus pairs were two words, two nonwords, or a word and a nonword, and presented in both matching and mismatching letter case pairs. Thus relationships between paired letter strings included a letter case task, a meaning task, and a lexical task for the same-different response. Results indicated that tasks requiring direct responses to stimulus inputs cannot distinguish between conscious response biases and unconscious use of information. Experiments 2 and 3, therefore, utilized an indirect index of automatic prerecognition analyses of verbal-linguistic parameters and found that letter case, orthographic regularity, and lexical/semantic information are all used in unconscious operations. It was also found in Experiment 4, that the subjects had no awareness of the stimulus input.

SIMION, FRANCESCA; BENELLI, BEATRICE; & TARANTINI, FRANCA. Is activation of different codes related to age and stimulus material? *Visible Language*, Autumn 1984, *18*, 333-341.

Compares response times and error data of 40 first-grade and 40 fifth-grade children (with equal numbers of males and females) asked to classify pairs of letters and geometric figures as either same or different. The stimuli letter pairs, presented tachistoscopically one above the other, represented three same conditions: 1) physically identical (PI), 2) analogue identity, in which letters differed in size but not in shape (AI), 3) name identity, in which letters differed in typeface only (NI). Geometric figures included isosceles, scalene, and right-angled triangles and trapezoids, and followed the same design for similarities and differences. Response times and error percentages for identifying same and different conditions were submitted to four analyses of variance procedures. Results indicated that older children responded more quickly to the same/different task ($p < .001$) and that accuracy increased with age. For the same condition decision, physical identity produced fastest response times, followed by analogue identity, while name identity processing took a significantly longer time ($p < .001$). The same pattern was observed for error: the percentage increased with the levels of processing (PI = 2%; AI = 7%; NI = 15%; $p < .001$). In the name identity condition, figures were processed faster than letters and were associated with fewer errors (Newman-Keuls, $p < .01$). The researchers posit that different codes are activated for processing letters and geometric figures at the name level, the phonetic code for the former and the visuo-spatial code for the latter.

ORMROD, JEANNE ELLIS. Visual memory in a spelling matching task: Comparison of good and poor readers. *Perceptual and Motor Skills*, August 1985, *61*, 183-188.

Investigates the role of visual memory in learning to spell nonsense words. Subjects were 10 pairs of 9th and 10th graders matched on *Otis-Lennon Mental Ability Test* IQ scores. Spelling was collected from the spelling subtest of the WRAT. The average IQ of both groups was 106; the average spelling raw score was 27.5 for the good spellers and 15.2 for the poor spellers. Stimuli were 48 nine-letter, alternating consonant and vowel strings displayed on a CRT with a paired nine-letter string. The paired string presented orthogonal contrasts in terms of spelling, size of type, and case. Subjects' task was to indicate if the two words were spelled the same or differently. ANOVA results found significant differences in the expected

direction for all main effects: spelling ability, print size, and letter case. The expected interaction between spelling ability and print size and case were not significant, however. The interaction between size and case was significant, providing evidence for the use of visual memory by both good and poor spellers.

BOONE, HELON C. Relationship of left-right reversals to academic achievement. *Perceptual and Motor Skills*, February 1986, *62*, 27-33.

Investigates the relation between reversal of letters and numbers and academic achievement for 90 third-grade pupils. Subjects were administered the *California Achievement Tests* (CAT) and the *Jordan Left-Right Reversal Test*. Scaled scores on the CAT were compared with raw scores on the Jordan. Scores on the two tests were significantly correlated. There were significant negative coefficients of correlation between reversal tendencies and all subtests on the achievement tests. Increases in reversal errors corresponded with decreases in academic achievement.

TSAO, YAO-CHUNG, & WANG, TSAI-GUEY. Information distribution in Chinese characters. *Visible Language*, Autumn 1983, *17*, 357-364.

Reports two experiments to study the relative speed and accuracy of reading different halves of Chinese logographs. Subjects were 20 and 12 Chinese readers for Experiments 1 and 2, respectively. Subjects had all received undergraduate degrees in Taiwan. In Experiment 1, materials were printed horizontally; in Experiment 2, they were printed vertically. For the first experiment, five passages of 300 characters each were selected and shown in one of five conditions: Condition W, characters presented in their entirety; Condition R, only the right halves of the lines of characters were shown; Condition L, only the left halves shown; Condition U, only the upper halves visible; and Condition D, only the lower halves visible. Subjects read orally and total time and number of errors were determined. In Experiment 2, conditions for reading were the same as in Experiment 1, but the five passages were only 150 characters each. Results in both experiments indicated that upper halves of characters were easier to read than lower halves and right halves easier than left halves.

MANN, VIRGINIA A. A cross-linguistic perspective on the relation between temporary memory skills and early reading ability. *Remedial and Special Education*, November/December 1985, *6*(6), 37-42.

Reports the results of two studies which explore the influence of linguistic and nonlinguistic components of temporary memory on beginning reading in Kana and Kanji. Experiment 1 sought to determine whether pupils who differ in the ability to read Japanese differ in memory for spoken nonsense words. A sample of 100 second-grade Japanese pupils was administered a task assessing memory of spoken nonsense words. Pupils rated as good readers by their teachers scored significantly higher on temporary memory for spoken nonsense words than pupils rated as poor readers. Experiment 2 used the same subjects and procedures but changed the visual stimuli to include abstract designs, photographs of Japanese faces, Hiragana, and Kanji. Good readers scored significantly higher on memory of all four types of visual stimuli except memory for faces. A secondary analysis computed intercorrelations among all measures used in both studies.

NIEMI, PEKKA, & VIRJAMO, MARKKU. Proofreading: Visual, phonological, syntactic or all of these? *Journal of Research in Reading*, February 1986, *9*, 31-38.

Investigates whether function and content words are processed differently in text. Forty-nine undergraduate Finnish students were asked to proofread a sample of Finnish text and identify all the misprints. Misprints were manipulated to create a design that included two levels of word frequency (high vs. low) crossed with two levels of syntactic type (function words vs. content words) crossed with two levels of length (short vs. long) crossed with two

levels of visual shape (original vs. distorted). Misprints retaining the original visual shape were harder to find and misprints in short words were harder to detect than misprints in long words. However, follow-up analysis showed that the effect of visual shape was confounded with phonological/orthographic legality.

McClelland, James L., & Mozer, Michael C. Perceptual interactions in two-word displays: Familiarity and similarity effects. *Journal of Experimental Psychology: Human Perception and Performance*, February 1986, *12*, 18-35.

Reports a series of four studies which investigate the role of familiarity and similarity of stimuli in visual perception. In all studies, university students were asked to process two-word displays. The first study compared migration errors with word stimuli to migration errors with a set of control strings designed to eliminate all higher order structural properties. In migration errors, letters present in one word in a display are reported as showing up in another word. Also compared were same-surround pairs (identical except for one letter) and different-surround pairs (different in all four letters and digits). Experiment 2 replicated the results of the first study using a slightly different paradigm and also distinguished between accuracy of letter identification and accuracy of letter localization. The third study examined the role of lexicality, independent of orthographic regularity, by comparing word stimuli to orthographically regular nonword stimuli. The final experiment investigated the role of physical, as opposed to abstract, similarity of the stimuli. Overall, it was found that migration errors depend on the abstract, structural similarity of the strings, not on the physical similarity; on whether the strings are words; and on whether the possible migration responses are words.

Paap, Kenneth R.; Newsome, Sandra L.; & Noel, Ronald W. Word shape's in poor shape for the race to the lexicon. *Journal of Experimental Psychology: Human Perception and Performance*, June 1984, *10*, 413-428.

Investigates the use of word shape in the word recognition process in a series of four experiments. In the first experiment, undergraduates ($n = 40$) read a 926-word passage in which 24 base words were misspelled. The misspellings were of four types: word shape maintained by use of a similar (confusable) letter or by use of a distinctive letter. Subjects were asked to identify errors, and reading rate and comprehension were monitored. Miss rates were calculated for the proofreading task, and there was an effect for letter similarity ($p < .001$), but not word shape ($p < .10$). In the other three experiments, undergraduates judged whether a tachistoscopically presented letter string was a word or not. The shapes of words presented was manipulated to be rare or common, and other variables such as word length and word frequency were also included. No effects for word shape frequency were noted for the lexical decision task in any of the experiments.

Zalud, Garreth G., & Carter, Sylvia M. Children's preferences and perceptions of color. *Reading Improvement*, Fall 1985, *22*, 182-185.

Performs an investigation to determine preferences for color and perceptions of color in various pictured objects in basal readers of 79 kindergarten through grade four children. Children completed a four-part questionnaire which required them to 1) select favorite colors on a color wheel, 2) answer questions regarding perceptions of the color of various objects in basal reader illustrations, and 3) complete statements about their favorite and least favorite colors. On the color wheel, red was most frequently selected with blue in second place. When asked about the color they would like to have their classroom painted and the color of clothing they looked best in, the same two choices were designated. However, when asked to complete statements regarding objects, responses were not in terms of favorite colors but of real colors.

IV-7 Reading and language abilities

HARSTE, JEROME C.; WOODWARD, VIRGINIA A.; & BURKE, CAROLYN L. *Language Stories and Literacy Lessons.* Portsmouth, NH: Heineman Educational Books Inc., 1984.

Summarizes and organizes several years of research in which the authors talked with preschool children about their "scribbles" and "invented spellings." Argues that preschool children are effective and sensitive users of language long before formal schooling commences. One primary focus of the research is the effect of the social context or setting in which the language takes place upon children's use of and reaction to written and oral language. Forwards a theory of communication and development of communication ability and demonstrates this theory with numerous examples. Provides extensive guidelines for teachers in helping children develop their ability to communicate.

DOWNING, JOHN. Cognitive clarity: A unifying and cross-cultural theory for language awareness phenomena in reading. In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write.* Portsmouth, NH: Heinemann Educational Books, Inc., 1986, 13-29.

Reviews the literature supporting metalinguistic awareness in children across cultures and writing systems. It is noted that research conducted in a number of different languages and in different cultures/subcultures reveals that language awareness is a universal phenomenon among beginning readers. Additionally, some research has demonstrated a relation between level of language awareness held by beginners and progress in the acquisition of reading skill. The characteristics of the writing system in which the child is learning to read may affect the development of awareness of linguistic features of text.

HIEBERT, ELFRIEDA H.; CIOFFI, GRANT; & ANTONAK, RICHARD F. A developmental sequence in preschool children's acquisition of reading readiness skills and print awareness concepts. *Journal of Applied Developmental Psychology,* April-June 1984, *5,* 115-126.

Reanalyzes data from an earlier study of preschoolers' development of print awareness by examining empirically the relationships among measures of print-related knowledge for the purpose of identifying the sequence in which children acquire this knowledge. The original data represented the performance of 60 three-, four-, and five-year-olds on a battery of five measures of print-related knowledge, including conventional reading readiness measures (auditory, visual discrimination, letter naming) and measures of concepts related to the use of print (purposes and processes). A multivariate analysis of variance indicated a multidimensional relationship among the three readiness and two print awareness measures that differed across the three age groups. To account for the possibility that linear techniques such as scalogram analyses fail to take into account the likelihood that measures of print-related knowledge develop in non-linear patterns, order analysis (a technique for identifying nonlinear hierarchical relationships) was employed. Hierarchical orderings indicated that mastery of the reading readiness skills occurred prior to the print awareness concepts, contrasting with the interpretation of the original study in which reading readiness and functional knowledge were thought to be proceeding in a parallel fashion.

QUIGG, PAMELA. The emergence of literacy. *Reading-Canada-Lecture,* Fall 1985, *3,* 211-217.

Examines writing samples collected from one kindergarten class of 19 boys and 5 girls from a middle class Canadian school. Data were collected over a 10-month period. Samples collected support Clay's 12 principles of written language, including the sign con-

cept, the message concept, the copying principle, the flexibility principle, the inventory principle, the recurring principle, the generating principle, the directional principle, the contrasting principle, the space concept, page and book arrangement, and the abbreviation principle. Examples from children's writing are used to illustrate each principle.

CAMPBELL, RUTH. When children write nonwords to dictation. *Journal of Experimental Child Psychology*, August 1985, *40*, 133-151.

Compares the levels of primed nonword spelling between children and adults. Subjects included an experimental group of 43 nine- to eleven-year-old British pupils, a control group of similar age pupils tested two years later, and an adult group of 20 undergraduate students. Experimental subjects were asked to spell nonwords interspersed with rhyming real words in order to examine biasing susceptibility, whereas control subjects were presented only with nonwords to spell. Results indicated that 10-year-old pupils showed a significant effect of heard word biasing. Pupils with a reading age greater than 11 years showed a level of biasing similar to adults, but pupils with a reading age less than 11 years showed no significant biasing. In general, nonword spelling was not as accurate in children as it was in adults. Significant intercorrelations were found between nonword spelling, reading age, biasing susceptibility, and word spelling for the group as a whole. Post hoc analyses examined particular patterns of biasing.

MORROW, LESLEY MANDEL. Effects of structural guidance in story retelling on children's dictation of original stories. *Journal of Reading Behavior*, Spring 1986, *18*, 135-152.

Examines the effects of frequent story retellings with structural guidance on kindergarten children's 1) use of structural elements in their own dictated stories, and 2) the oral language complexity of their stories. Subjects were 82 beginning kindergarteners from 17 classrooms in 17 different public schools, 38 in the experimental group and 44 in the control. For each of eight weeks, a different picture book was read aloud to the entire class. After the reading, the control group subjects drew pictures about the story. The experimental children were seen individually and asked to retell the story. The experimenter used a guide sheet to prompt the children, when necessary, to include in their retelling the structural elements of setting, theme, plot episodes, resolution and sequence in the story. To examine the experimental effects, pre- and posttest dictated stories using five oak tag figures as story motivators were collected. These stories were analyzed for T-unit length, number of structural elements included and syntactic complexity. Analysis of covariance, covarying on original story, indicated significant improvement for the experimental group in their dictated stories in terms of: total story dictation, setting, plot resolutions, and average length per T-unit. The two groups did not differ in syntactic complexity count.

LANGER, JUDITH A. Children's sense of genre: A study of performance on parallel reading and writing tasks. *Written Communication*, April 1985, *2*, 157-187.

Compares children's sensitivity to narrative and expository structures as reflected in their parallel activities of writing and reading. Subjects were 16 third graders, 36 sixth graders, and 15 ninth graders, who had average percentile scores of 84.9 in reading and 87.3 in general language on the *Comprehensive Test of Basic Skills*. Half of the group were assigned to a think aloud procedure, providing information about their thoughts and behaviors as they were reading and writing. The other half were assigned to a retrospective condition where they were to retell as soon as they completed the reading or writing task. Students in the retrospective condition retraced the reading passages and the written texts as an aid in remembering what they had been thinking while reading or writing. Writing was analyzed for rhetorical structures and internal structures. Retellings were analyzed for top level structure, gist, title, recall of content, and number of words. Data are reported qualitatively and quantitatively, first with comments from the subjects about their stories and reports, then with dif-

ierences from their writing, and finally with their writing features which influenced their reading. Findings indicated that 1) children have differentiated notions of stories and reports and their structures from an early age; 2) children use these structures in the pieces they read and retell as well as in their writings; 3) stories and reports grow in complexity along a variety of measures, and 4) stories and reports show increased student control of organizational structures.

FLOOD, JAMES, & SALUS, MARY W. Metalinguistic awareness: Its role in language development and its assessment. *Topics in Language Disorders*, September 1982, *2*(4), 56-64.

Reviews studies on metalinguistic awareness, focusing specifically on studies of oral language development, written language development, and assessment. Assessment is suggested as an area needing further investigation, as various aspects of morphophonemic skills and language awareness are known, but few assessment instruments assess structural-relational linguistic awareness at various developmental levels.

FLOOD, JAMES, & MENYUK, PAULA. The development of metalinguistic awareness and its relation to reading achievement. *Journal of Applied Developmental Psychology*, January-March 1983, *4*, 65-80.

Examines which aspects of structural-relational (semantic-syntactic) linguistic knowledge are related to reading achievement at various ages, and what relation exists between metalinguistic awareness in oral language processing and in written language processing. Sixty-four subjects, ranging in age from fourth graders to adults, judged and produced corrections of nongrammatical, anomalous, and ambiguous stimulus items in sentences and passages, presented in both oral and written modes. Children were selected on the basis of standardized reading achievement scores and teacher judgment. Adults were with college educated or currently enrolled in an adult education program. Adult lower readers were selected on scores on the *ABLE* test and on teacher judgment. Reading achievement and age were positively related to metalinguistic ability. Subjects were better able to judge forms than to produce correct forms. Productive metalinguistic ability became equal to receptive metalinguistic ability, but only for good readers. The ambiguous task was the most difficult for subjects, but the task of nongrammaticality was the best discriminator for reading level and grade level. After fourth grade, good readers performed equally well on oral and written tasks, but not poor readers.

YADEN, JR., DAVID B. Reading research in metalinguistic awareness: A classification of findings according to focus and methodology. In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write*. Portsmouth, NJ: Heinemann Educational Books, Inc., 1986, 41-62.

Synthesizes findings from studies exploring children's notions of the reading act, linguistic units, and properties of the written language system. The chapter presents findings under three major headings: 1) concepts about the nature, purposes, and processes of reading; 2) concepts about spoken language units; and 3) concepts about printed conventions. It is concluded that beginning readers are generally unaware of the overriding structure of the writing system as well as of their own speech.

TUNMER, W.E.; PRATT, C; & HERRIMAN, M.L. (Eds.). *Metalinguistic Awareness in Children: Theory, Research, and Implications*. Berlin: Springer-Verlag, 1984.

Presents a series of papers all dealing with current research and theory on metalinguistic awareness in children. In the first of the sections of the book, general considerations of conceptual and methodological issues arising from efforts to study metalinguistic awareness

are addressed. Questions of definition, emergence in children, and assessment tasks and procedures are discussed. The second major section of the book reviews research conducted into four general types of metalinguistic awareness: phonological, word, syntactic, and pragmatic. The third and final section presents chapters which examine metalinguistic awareness and cognitive development, reading acquisition, bilingualism, and early childhood education.

HENDERSON, EDMUND. Understanding children's knowledge of written language. In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write*. Portsmouth, NH: Heinemann Educational Books, Inc., 1986, 65-77.

Cites literature related to the development of children's understanding of written language. Included are sections on children's concept of word and phoneme awareness, language comparison and spelling reform, learning to spell English, and developmental aspects of learning to read and write.

LOVETT, MAUREEN W. Sentential structure and the perceptual span in normal reading development. *Journal of Psycholinguistic Research*, January 1984, *13*, 69-84.

Uses an eye-voice span (EVS) paradigm to study whether children use different semantic and syntactic features of English sentences to facilitate decoding. Subjects from four grade 1 and four grade 2 classes were screened with the *Otis-Lennon Mental Ability Test*, and the *Durrell Analysis of Reading Difficulty*. Reading group placement was assigned by performance on the Durrell passage on which a subject reached a criterion of seven or more major decoding errors. Subjects (n = 84) had a mean IQ of 110, were of middle-class background, and were enrolled in a unilingual English school program in Canada. A sample of skilled adult readers (n = 15) was also selected for study. Seventy-two sentences varying according to the presence or absence of semantic and/or syntactic structure were constructed to represent four conditions: condition 1) natural semantic and syntactic constraints; condition 2) natural constraints but scrambled word order; condition 3) content words replaced with pronounceable pseudowords; and condition 4) pronounceable pseudowords but scrambled order. Testing occurred over a 3-day period. Main effects were found for grade and for reading group, with EVS increasing from Grade 1 to Grade 2. Children performed differently on different conditions, with EVS performance facilitated by conditions, with EVS performance facilitated by condition 1.Syntactic constraints produced facilitation independent of semantic content. A significant reading group by condition interaction was also found. Increase in EVS varied with degree of linguistic constraint and with position in the sentence and with sentence placement in the two-sentence format. Patterns for adults and children were similar.

LUSZCZ, M.A.; BUNGEY, J.; & GEFFEN, G. Orthographic-morphemic factors in reading: A developmental study. *Australian Journal of Psychology*, December 1984, *36*, 355-365.

Investigates the development of the use of a lexical access and storage code system by 24 children in grades three, five, and seven (n = 72), as well as 22 university students. The structure, called the Basic Orthographic Syllabic Structure (BOSS), proposes that the lexicon is accessed by representations of words stored in a decomposed rather than whole word state. BOSS approximates the base morpheme of a word (e.g. RUD is the BOSS of RUDE, MAD the BOSS of MADE). Stimuli were 90 strings of letters, equally divided into three word and three nonword conditions. BOSS was manipulated in word and nonword conditions and compared with words of same or higher frequencies or nonwords. Four to six weeks prior to testing, prospective subjects indicated their familiarity with a 180-word list that included all potential experimental words, source words for BOSS, and wordlike nonwords. Unfamiliar words were eliminated. Testing required subjects to depress an appropriate response key once

a decision was made as to whether a letter string stimulus formed a word or nonword. Latency and error data were each analyzed in Age × Sex × Condition ANOVA's. Results indicated that all nonword decisions took longer than word decisions, suggesting an age-invariant exhaustive lexical search. Relatively larger word/nonword differences for younger children were attributed to different bases of lexical distinctions. The availability of a BOSS-based lexical file was apparent at all ages, although use of a BOSS-mediated code seems to emerge gradually.

MANN, J.W. The atmosphere effect in narratives. *Journal of General Psychology*, July 1984, *111*, 3-7.

Examines the grammatical atmosphere effect in passages containing many sentences. A 2 x 2 factorial design yielded four treatment passages, an unbroken or broken narrative containing many plurals and an unbroken or broken narrative containing many singulars. A total of 326 college psychology students were randomly allocated to the treatments and required to complete a cloze-type task. Analysis of mean scores found a significant difference for the main effect of plural versus singular but no significant difference for the effect of unbroken or broken form. Results tended to support the presence of a grammatical atmosphere effect.

MASSARO, DOMINIC W. Reading ability and knowledge of orthographic structure. *Visible Language*, Autumn 1984, *18*, 323-332.

Explores the relation between utilization of orthographic structure and reading ability. Subjects, 30 fourth graders of good, poor, or average reading ability as determined by the *STEP* reading test, were given pairs of letter strings varied systematically in terms of seven types of lexical status, sublexical pattern frequency, and rule-based regularity. Each subject was presented with 420 pairs and asked to pick the string that most resembled conventional English spelling. In the first phase, strings were presented on cards. In the second phase, they were presented on the computer. Choices of strings decreased as orthographic structure decreased. Differences were found for reading group, with slope of functions decreasing with decreasing reading ability. Reaction times increased with decreasing orthographic structure, but did not vary as a function of subject reading ability.

YIN, KOH MOY. The role of prior knowledge in reading comprehension. *Reading in a Foreign Language*, Spring 1985, *3*, 375-380.

Investigates the effects of prior knowledge on the reading comprehension of subjects at different levels of competence in English. Subjects were undergraduates studying business or science, who came from schools that used Chinese (CM) or English (EM) as a medium. The three groups of students were classified as Business-CM, Science-CM, and Science-EM. Four tests of 400 words in length were prepared in standard cloze format. The subject matter concerned business, politics, science, and history. The order of the presentation of the texts to each subject was varied. In scoring, only exact-word replacements for the deletions were accepted. English proficient students outperformed the less proficient English speakers ($p < .001$), except for the business text where Business-CM had a comparable score to Science-EM. The influence of prior knowledge was indicated by an increased performance by all groups on texts from their major area ($p < .001$).

BALOTA, DAVID A.; POLLATSEK, ALEXANDER; & RAYNER, KEITH. The interaction of contextual constraints and parafoveal visual information in reading. *Cognitive Psychology*, July 1985, *17*, 364-390.

Investigates the effects of contextual constraints on the eye movements of 30 adult readers. Subjects were presented two line sentences on a CRT in which the target word appeared near the end of the sentence. The sentences were written in such a manner that two

alternative words could appear in the target location, but one of the words was more highly predicted by preceding context. Further, the parafoveal visual information (i.e., the target word) available while the subject was fixating the word preceding the target word was varied systematically, and replaced by the real target word during the saccade from the preceding word to the target word; visually dissimilar, but visually similar to the alternate target word; identical, the real target word; semantically related, the alternate target word; and anomolous, an unrelated real word. Dependent variables were eye movements and fixation durations while reading. Although subjects did fixate the target word on the majority of trials, they skipped the word significantly more often when the parafoveal stimulus was the highly predictable target word or a nonword that was visually similar to the target word. Low predictable target words and nonwords and anomolous words were rarely skipped. The fixation lengths of predictable target words were significantly shorter than for less predictable target words when parafoveal stimuli were the target words. Further, there was a significant effect on fixation lengths of parafoveal stimuli, and this effect interacted with the predictability of the target word. This suggested that a parafoveal preview that is visually similar or identical to the fixated target word facilitated processing when the target word was highly predictable. Concludes that lexical representations accumulate information from both sentence context and parafoveal vision.

WATERS, GLORIA S.; BRUCK, MARGARET; & SEIDENBERG, MARK. Do children use similar processes to read and spell words? *Journal of Experimental Child Psychology*, June 1985, *39*, 511-530.

Evaluates third grade children's use of spelling-sound information in reading and spelling. There were 36 subjects, 12 in each of three groups: good readers-good spellers, good readers-poor spellers, and poor readers-poor spellers. All subjects were from Montreal, Canada. Reading ability was determined with the *Stanford Diagnostic Reading Test*, and spelling was determined with the spelling subtest of the *Wide Range Achievement Test*. Respectively, the reading scores of the three groups were 2.8, 3.6, and 3.8; and spelling scores were 3.1, 3.5, and 5.9. Five classes of stimuli were derived by selecting words varying in regularity for reading and spelling: regular, regular with respect to reading but not spelling, ambiguous, exceptions, and strange. There were 18 words for each class. An additional 72 nonwords were derived by substituting the initial consonant of the words from four of the word classes. For the reading task, subjects read the words aloud as they appeared on a CRT. The spelling test was administered as a group task. ANOVA results indicated significant main effect differences between groups and word classes, and a significant group by word class interaction. Comparison analyses indicated that children in the mixed and poor groups had lesser knowledge of spelling-sound correspondences and were less systematic in their use of them. The reading and spelling errors of the children in the mixed group were more similar to those of the poor group than the good group.

TREIMAN, REBECCA. Phonemic awareness and spelling: Children's judgments do not always agree with adults'. *Journal of Experimental Child Psychology*, February 1985, *39*, 182-201.

Studies the relation between children's judgments of specific sounds and their spellings of the same sounds. The 62 kindergarten and 50 first grade children who participated were administered the following assessment instruments: a spelling test in which the child named the letter or letters to spell the initial portion of a syllable; a phoneme recognition pretest containing 16 CV and CCV stimuli, half beginning with/k/ and half with nontarget phonemes; a phoneme recognition test in which /d/ and /t/ were the target phonemes; a phoneme deletion test involving the deletion of the two target phonemes /t/ and /d/; and the reading and spelling subtests of the *Wide Range Achievement Test* (WRAT). Findings of correlational analyses indicated that children tended to perform in a consistent manner in the

spelling test and in the phoneme recognition test. Children who used affricate letters to spell /tr/ and /dr/ stimuli tended to state that these stimuli did not begin with /d/ and /t/; subjects who used stop letters to spell syllables with initial /c/ and /j/ tended to say that these syllables began with /t/ and /d/. The use of T and D to spell /c/ and /j/ was characteristic of poorer spellers and readers on the WRAT. The author concludes that children's attention to a phonetic level may end in judgments of speech sounds and spellings which are different from those of adults.

EHRI, LINNEA C., & WILCE, LEE S. The influence of spellings on speech: Are alveolar flaps /d/ or /t/? In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write*. Portsmouth, NH: Heinemann Educational Books, Incs., 1986, 101-114.

Gives results of two experiments noting the developmental stages in children's perception of spelling in words containing intervocalic flaps. In Experiment 1, subjects were 17 first graders, 20 second graders, and 33 fourth graders. Children listened to familiar target words, first in a sentence and then in isolation, and were asked to tell if each was spelled with a T or a D sound in the middle. Children's judgments of flap sounds became more like sounds represented in spellings as age/grade increased. There was a /t/ bias in 25% of first graders, and a bias to judge sounds as /d/ in other subjects. In Experiment 2, 18 second graders were matched for IQ, word reading score and spelling test score and randomly assigned to either an experimental or control group. Experimentals were taught to read a set of 12 words containing medial flaps spelled with D and T, while controls only heard and pronounced the words. Both groups were then asked to determine which of two picture names rhymed with the terminal phoneme of the syllable in the word. Experimentals selected more picture names which rhymed with flap spellings than did controls. The authors state that their results, combined with other research, offer support for a three-phase model of development in the perception of flaps.

GORDON, BARRY. Lexical access and lexical decision: Mechanisms of frequency sensitivity. *Journal of Verbal Learning and Verbal Behavior*, February 1983, 22, 24-44.

Tests three models of lexical access and lexical decision (the serial search model, the two-dictionary model, and a parallel-access, criterion-bias model) comparing the effects of mixed- and blocked-frequency presentation on correct lexical decision times. Subjects were 148 adults, all either undergraduates or with a college education. Six experimental lists were formed containing high-, medium-, and low-frequency words and nonwords. Some lists contained mixed-frequency words and some pure-frequency only. Subjects were asked to respond as quickly as possible to whether a stimulus was a word. Reaction times were faster for high-frequency words in the blocked, pure-frequency condition than in the mixed-frequency one. Medium-frequency words showed less difference, and no difference was found for low-frequency words.

CURTIS, RUTH V., & REIGELUTH, CHARLES M. The use of analogies in written text. *Instructional Science*, July 1984, *13*, 99-117.

Investigates the use of analogies in 26 science textbooks ranging from elementary to postsecondary levels and published within the past 20 years. Ten books were biology texts, 6 general science, 4 chemistry, 3 physics, 2 earth science, and 1 geology. A total of 216 analogies were identified in the 26 texts, averaging 8.3 analogies per text. Chemistry and geology texts had the highest number. Analogies were organized into categories as patterns emerged, and a classification system was developed. Analogies were classified as to analogical relationships (structural, functional, or structural-functional); presentation format (verbal, pictorial-verbal); condition (concrete/concrete, abstract/abstract, concrete/abstract); position

(advance organizer, embedded activator, post synthesizer); level of enrichment (simple, enriched, extended); and pretopic orientation (vehicle explanation, strategy identification, vehicle explanation and strategy identification, and absence of pretopic orientation). Analogies were analyzed by category, science subject and by individual textbook. A set of prescriptions for analogies in written instructional materials is proposed.

WINOGRAD, PETER N. Strategic difficulties in summarizing texts. *Reading Research Quarterly*, Summer 1984, *19*, 404-425.

Examines the strategy differences between eighth grade good and poor readers as they summarized what they read to determine their awareness of the task demands involved in producing summaries, their ability to identify important text elements, and their ability to reduce the meaning of a text into its gist. Subjects were 36 poor readers (below 50th percentile on the *Stanford Achievement Test*, Reading Comprehension subtest), 39 good readers (above 59th percentile), and 37 adults (undergraduates, graduate students, and completed doctoral students). Each was tested individually for decoding accuracy and speed, administered written interview questions, and completed the *IPAT Culture Fair IQ Test*. They read expository passages adapted from texts and recorded reading time. After reading, subjects answered five multiple-choice questions, without looking back; wrote a 60-word summary of the article, with the article present; and after a brief interpolated task, rated the importance of each sentence to the passage. They then identified the five most importance sentences in the article. The process was repeated for six passages. Subjects then completed a second task awareness interview. Six months later data were collected on a subset of 12 good and 12 poor readers. Summary protocols were scored for ideas from the original passage as well as for reproductions, combinations, run-on combinations, and inventions. Subjects indicated that they were asked to produce summaries at school, that they had been taught to summarize, and knew to include important statements in a summary. Good readers were better judges of importance than poor readers. Poor readers showed consistency in what they rated as important, even though their scores were not as strong. Poorer readers seemed to choose sentences that were more important in visual detail, while good readers chose sentences important to idea or information. Correlations between poor readers' importance statements and the statements of their summaries were not strong. Developmental trends seemed apparent for use of the rules; as subjects had more reading skills, they had fewer reproductions and run-ons and more combinations and inventions.

STEIN, CECILE L.; CAIRNS, HELEN S.; & ZURIF, EDGAR B. Sentence comprehension limitations related to syntactic deficits in reading-disabled children. *Applied Psycholinguistics*, December 1984, *5*, 305-322.

Compares the performance of 20 normal and 20 reading-disabled second- and fourth-grade children on their interpretations of several sentence constructions (passive sentences and sentences incorporating various types of relative clauses) and also compares the level of grammatical development in both groups. Using a relatively new metric of grammatical development, children were classified according to whether they exhibited a subject-oriented, object-oriented, mixed subject-object, or adult grammar type, based on their interpretation of sentences. Each child also received a c-command score (constituent command) based on the extent to which they obeyed the constituent command constraint in interpreting sentences containing embedded complements with missing subjects. Results demonstrated that the nondisabled readers performed at higher levels of grammatical development than did the reading-impaired subjects. There was no effect for age nor for modality of sentence presentation (auditory versus visual presentation), although the researchers urge cautious interpretation of modality as a nonsignificant factor because of procedures that supplied unknown words. Of the younger and older comparison groups, 60% and 70% were classified at the adult level of grammatical orientation, as well as at a high c-command level, compared with 10% in each of

the reading-disabled groups. Ninety percent and 60% of the younger and older reading-disabled subjects appeared to fall primarily within the categories identified as *no*, *low*, and *developing* c-command. The researchers suggest the metric may have utility in determining the existence and pervasiveness of a syntactic deficit in different subgroups of disabled readers.

SCHMIDT, EUNICE. Written language must make sense: Three recent research studies. *International Research in Reading*, Winter 1984, *1*(1), 19-34.

Summarizes the results of three cross-cultural studies of written language. In Study 1, selected early reading behaviors of 5-, 6-, and 7-year-old American and Australian children were compared. Children were asked to recognize print stimuli from commercially packaged products presented in four levels of decontextualization. A significant interaction occurred between age and level of decontextualization. Seven-year-olds gave the most meaning-based responses, but no difference was noted between 5- and 6-year-olds. A significant interaction between country and age indicated that American 6-year-olds used graphophonic responses more than all of the Australian students. The purpose of Study 2 was to compare the emerging concepts about print between 40 U.S. and 40 Danish 5-, 6-, 7-, and 8-year-olds. Developmental patterns and cross-cultural comparisons were made based upon the subtest scores of the Concepts About Print Test: SAND. Few differences were found at ages 5 and 8, but there were differences at ages 6 and 7. Study 3 examined oral and written story retellings of U.S. and Danish 12- to 15-year-olds to analyze cognitive processes used in understanding text. Some differences in levels of processing were found between the two groups.

PARISH, CHARLES, & PERKINS, KYLE. Factors influencing anaphoric processing in ESL reading comprehension. *Journal of Research in Reading*, September 1985, *8*, 106-115.

Examines several factors influencing the ability of English as Second Language (ESL) readers to resolve anaphoric expressions. Subjects were 50 full-time ESL college students randomly drawn from three different proficiency levels (elementary, intermediate, advanced). Materials consisted of four stories drawn from basal readers and modified so that categories of pronouns were represented and so that two stories contained two antecedents and two contained four antecedents. Two passages were tested for comprehension by means of 48 multiple-choice items and two passages by means of 50-item cloze tests. A four-way mixed ANOVA for the multiple-choice tests showed significant effects for proficiency level, case of anaphor, and the interaction of case and number of antecedents. For the cloze tests, ANOVA findings indicated significant effects for proficiency level, number of antecedents, case of anaphor, distance from antecedent, and for the interactions of case and antecedents, antecedents and propositional distance from the antecedent, and case and distance.

DANKS, JOSEPH H., & KURCZ, IDA. A comparison of reading comprehension processes in Polish and English. *International Journal of Psychology*, 1984, *19*(3), 245-269.

Reports the results of two studies which explore what effect differences in language structure have on comprehension processes. Syntactic information is represented primarily by morphology in Polish and by word order in English. An English magazine article was translated into Polish so as to create two parallel versions of the same passage. Each version was manipulated by creating lexical, syntactic/semantic, within-syntactic class, between-syntactic class, semantic, and factual violations. Native-speaking English and Polish university students were asked to read the stories orally. The primary dependent variable was the production time for the word units surrounding a targeted critical word. Types of oral reading errors caused by the violations were also analyzed. It was found that the disruptions caused by the syntactic violations were relatively larger and occurred earlier in Polish while the semantic and factual violations produced broader disruptions in English than in Polish.

POTTER, MARY C.; SO, KWOK-FAI; VON ECKARDT, BARBARA; & FELDMAN, LAURIE B. Lexical and conceptual representation in beginning and proficient bilinguals. *Journal of Verbal Learning and Verbal Behavior*, February 1984, *23*, 23-38.

Reports the results of two studies conducted to test two competing hypotheses regarding second language learning. The word association hypothesis assumes a direct association is made between words in the two languages; the concept mediation hypothesis proposes the only connection between the two languages is through an underlying, conceptual system. One study used proficient bilinguals (24 native Chinese-speaking college students who were residing in the U.S. and studying in English). The other study used relative novice bilinguals (28 American high school students who had studied French in school for 2 or 3 years). In both studies, subjects were asked to name written words aloud, to translate those words into the other language, and to name pictures in one or the other language. Times needed to complete these tasks were compared in light of predictions made from the hypotheses. Results for both groups supported the concept mediation hypothesis.

CAREY, STEPHEN T., & CUMMINS, JAMES. Achievement, behavioral correlates and teachers' perceptions of Francophone and Anglophone immersion students. *The Alberta Journal of Educational Research*, September 1983, *29*, 159-167.

Compares French and English achievement of francophone, anglophone, and mixed subpopulations of pupils enrolled in French immersion programs in grade 5 in Catholic schools in Edmonton, Canada. Scores are compared with those of francophone pupils in Quebec, those enrolled in exclusively francophone schools in Ontario, and those enrolled in regular English, rather than in immersion. Also explored were the indicator or predictor variables associated with superior performance in French immersion, and teachers' perceptions of students, and how those perceptions corresponded with the predictor variables. Subjects completed French and English cloze tests. Teachers completed a 9-item questionnaire on student use of French and performance in class. Subjects completed a questionnaire asking which language they preferred at home and at school, and to what extent they were happy to have the opportunity of using French outside of class. *Lorge: Thorndike* and *Canadian Tests of Basic Skills* scores were secured from school test records. Significant differences were found between groups on the French cloze test, but not on the English cloze test. Correlations between French and English cloze tests and the IQ, cognitive abilities, and reading abilities were high (.41 to .65).

PERKINS, KYLE, & ANGELIS, PAUL J. Schematic concept formation: Concurrent validity for attained English as a second language reading comprehension? *Language Learning*, June 1985, *35*, 269-285.

Explores the relationship between a schematic concept formation task and reading performance with adults for whom English is a second language. The 33 subjects represented 9 native languages, but only two language groups, Arabic and Spanish, were used for data analysis. The schematic concept formation task involved giving subjects graphic stimuli which represented two or more classes. Subjects had to find the common features which made up a schema with a single pattern and then indicate which stimuli belonged to the same class. Reading performance was assessed with a multiple-choice comprehension test. No significant difference was found between the two language groups on the schematic concept task. A reliable coefficient of determination of .55 was found between the schematic concept task and reading performance, suggesting significant shared variance. Better readers tended to perform higher on the schematic concept formation task.

ZUCCHERMAGLIO, CRISTINA; PONTECORDO, CLOTILDE; TONUCCI, FRANCESCO; & BLACHOWICZ, CAMILLE L.Z. Literacy and linguistic awareness: A study of Italian first grade students. *Reading Psychology, 1986, 7*(1), 11-25.

Explores the relationship between linguistic awareness and success in beginning reading and writing. A sample of 81 first grade Italian pupils (four intact classes) were individually assessed at the beginning of the school year to estimate their linguistic awareness. Each subject was given a phonetic segmentation test, a lexical segmentation test, a rhyming test, a writing test, and a reading test. A total score was calculated for all of the tests and correlated with end of the year writing and reading scores, as well as with selected demographic variables. Significant coefficients were found between initial level of linguistic awareness and the number of years the children had attended scuola materna; linguistic awareness and mothers' educational level; and linguistic awareness and final reading and writing levels.

BARNITZ, JOHN G. Toward understanding the effects of cross-cultural schemata and discourse structure on second language reading comprehension. *Journal of Reading Behavior,* Spring 1986, *18,* 95-116.

Reviews research on second culture and second language reading comprehension. Among the topics reviewed are content schemata and second language comprehension and formal schemata in second language comprehension. Also reviewed are studies on discourse processing. Argues that the roles of cultural schemata and discourse structure form an interactive model for first and second language reading.

GOODMAN, GAIL S.; HAITH, MARSHALL M.; GUTTENTAG, ROBERT E.; & RAO, SHOBINI. Automatic processing of word meaning; Intralingual and interlingual interference. *Child Development,* February 1985, *56,* 103-118.

Examines in two experiments the issue of whether a "switching mechanism," controlling the engagement of different language systems, functions for semantic processing by bilinguals. Subjects numbered 30 and 69 in the two experiments, conducted in the Lycée International, a school in France enrolling half French nationals and half foreign nationals. Automatic processing of word meaning was studied in elementary and junior high-level bilingual children and children in various stages of second language acquisition. For each experiment a picture-word interference task was used, in which the children named outlined pictures as rapidly as possible while attempting to ignore distractor words printed inside the pictures' borders. In Experiment 1, in which subjects were proficient in two languages, the printed distractors interfered with naming on both intralingual trials, for which the distractor and naming language were the same, and interlingual trials for which they were different. The pattern of interference across six levels of name-distractor relation was similar for the intralingual and interlingual conditions and indicated that at least part of the interference occurred at a semantic level. For children who were in various phases of learning a second language (Experiment 2), second-language words were automatically processed to the level of meaning early in the course of second-language reading instruction. As was found for the more proficient groups, both the pattern and the amount of interlingual interference matched that for intralingual interference.

PIPER, DAVID. Contrastive rhetoric and reading in a second language: Theoretical perspectives on classroom practice. *Canadian Modern Language Review,* October 1985, *42,* 34-43.

Reviews literature and builds a theoretical perspective particularly relevant to understanding the relation between cultural background schemata, rhetoric, reading, and writing. In particular, the author looks at research into story grammar and the nature and existence of interlanguage in second language acquisition.

MacLean, Margaret. Second language reading research: Pathways through the labyrinth. *Reading-Canada-Lecture*, Spring 1986, *4*, 32-37.

Reviews research from the last 10 years on reading in a second language. Identifies and discusses two trends in this research and selectively reviews studies from each: studies that explain the differences in reading first and second languages in terms of process strategies, and those that explain differences in terms of background knowledge. Concludes that future research should be directed to a better understanding of the cognitive, linguistic, and sociocultural influences on second language reading. Provides four suggestions for future research in second language reading.

Carrell, Patricia L. The effects of rhetorical organization on ESL readers. *TESOL Quarterly*, September 1984, *18*, 441-469.

Investigates the effects of differences in the organization of English expository prose on the reading comprehension of 80 ESL readers of varying linguistic backgrounds. Subjects were all from the three highest levels of an intensive English language program for foreign university students. They included 32 Spanish, 16 Arabic, 12 Oriental, and 20 other students. Four versions of a simple passage were written, each version containing identical content information but with some different information in each passage. Subjects were randomly assigned to one of the four text versions. Immediate and delayed written recall processes were analyzed. Additionally, a fill-in-the-blank probed recall test was administered at the delayed recall sessions. Recall was better for texts with more tightly organized discourse structures (comparison, causation, and problem/solution) than for the collection of descriptions structure. Probed recall was also better for the highly organized discourse types than for the less organized collection of descriptions, although the difference was not significant. Various discourse structures had differing effects on the quantity of free recall for different language groups.

Kozminsky, Ely, & Graetz, Naomi. First vs second language comprehension: Some evidence from text summarizing. *Journal of Research in Reading*, February 1986, *9*, 3-21.

Compares the text processing strategies readers use in their native language versus those used in a second language. Forty undergraduate Israeli students enrolled in EFL classes were randomly assigned to either English or Hebrew versions of expository texts. They were instructed to read the texts, study them, and then summarize the information. Three levels of data analysis were conducted: one for study activities which looked at underlinings, markings, and notes; a second for the text summaries which considered selection, abstraction, cohesion, and addition; and a third type of data analysis examined the relation of study activities to text summaries. Analysis of study activities found that subjects reading in their native language focused more on words than subjects reading in their second language who focused more on larger verbal units. The Hebrew text summaries were substantially longer and of better quality. Subjects reading in their second language used fewer of their text generated activities in the summaries than subjects reading in their native language.

Levine, Martin G., & Haus, George J. The effect of background knowledge on the reading comprehension of second language learners. *Foreign Language Annals*, October 1985, *18*, 391-397.

Investigates the effects of relevant background knowledge on the reading comprehension of high school students of Spanish as a Foreign Language. Subjects were 203 students who were in their second or third year of Spanish in three public schools in two school districts in Southern California. All were asked to read a 450-word report of a baseball game from a Spanish language newspaper. Comprehension of the text was determined by a 12-item multiple-choice test written in Spanish. A subject's relevant background knowledge of the

game was assessed by means of a 9-item multiple-choice questionnaire. Subsequently, 52 of the original subjects were identified as having limited knowledge of baseball and 38 as possessing high knowledge. Of these 90, 44 were enrolled in Spanish Level 3 and 46 in Spanish Level 2 courses. Test scores for these 90 subjects were used in the data analysis. Results indicated that: 1) background knowledge becomes a significant factor that affects reading comprehension across two types of questioning when the textual material is written at the instructional reading level, and 2) background knowledge could be more important than language level in comprehending such material.

IV-8 Vocabulary and word identification

VELLUTINO, FRANK R. Theoretical issues in the study of word recognition: The unit of perception controversy reexamined. In Sheldon Rosenberg (Ed.) *Handbook of Applied Psycholinguistics: Major Thrusts of Research and Theory.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1982, 33-197.

Reexamines the issue of the unit of perception in word recognition in light of recent research findings and analyzes the issue within a developmental framework. The author argues that the word recognition process is quite complex and involves the integration of five major classes of information: graphic, orthographic, phonologic, semantic, and syntactic. Discussion occurs under four major headings, the first two giving a description of the major concepts and schematics employed in word recognition models and detailing contemporary theories of word recognition (feature theories, component letter theories, letter group theories, and a whole word model theory). A third section cites supporting evidence to argue that the unit of perception is determined in part by the stimulus properties of the word itself and that different processing strategies are needed for recognition and identification of various words. Also developed is the idea that the experience and skill of the reader is an important variable contributing to the processing strategies. A fourth major section summarizes and synthesizes major points and emphasizes the need for a word identification model with greater ecological validity.

VELLUTINO, FRANK R., & SCANLON, DONNA M. Free recall of concrete and abstract words in poor and normal readers. *Journal of Experimental Child Psychology,* April 1985, *39,* 363-380.

Reports the results of two studies which compare the free recall of concrete and abstract words in poor and normal readers. In Experiment 1, subjects were 240 second- and sixth-grade pupils. At each grade level, poor readers were matched with normal readers of the same sex. Each subject was individually presented 10 abstract and 10 concrete words, randomly assorted, in a series of six trials. Performance was judged by the number of words recalled. Findings revealed a significant main effect for word type with concrete words easier to remember for all pupils at both grade levels. A significant interaction (group x word type) was found for second graders but not sixth graders. At the second grade, performance of good and poor readers on concrete words was comparable but good readers performed significantly better than poor readers on abstract words. Experiment 2 essentially replicated the first with one exception: words were presented in homogeneous blocks rather than randomly. Findings were similar to the first. A post hoc analysis examined the types of errors made by good and poor readers.

FREEBODY, PETER, & COOKSEY, RAY W. Computer assessment of reading vocabulary: A preliminary study of the relationships between knowledge, word frequency, and response time. *Reading Psychology*, 1985, *6*(3 & 4), 157-168.

Investigates the relation between word frequency and word knowledge in the context of the estimation of vocabulary size. The subjects were of average academic ability and were a 10-year-old girl, a 13-year-old boy, and a 19-year-old female undergraduate. Words were presented one at a time on a microcomputer screen. The words were 220 words selected according to frequency bands from the *American Heritage Word Frequency Book*, 48 nonwords constructed by varying one or two letters in an English word or by randomly combining syllables ("brutes"), 36 nonwords formed by grammatically acceptable combinations of base words with affixes ("illegals"), and 36 nonwords formed by grammatically unacceptable combinations of base words with affixes ("legals"). Subjects identified whether they knew the meaning of the word or not by pressing a "yes" or "no" key. Response time was calculated for each letter string. A procedure is outlined for the calculation of estimated total vocabulary knowledge. For the three subjects, the estimated total word knowledge fell at the lower end of the current range estimates (approximately 15, 22, and 32 thousand). The estimated growth in total word knowledge was 15% between 10 and 13 years, and 7% between 13 and 19 years. Response time had an orderly relation with word frequency, but the particular relation varied for the three subjects. The 10-year-old false-alarmed more "brutes" than the 13-year-old ($p < .01$), and the latter false-alarmed more "illegals" than the oldest subject ($p < .01$).

KATZ, KIM D. A teacher's study of sight vocabulary. *Michigan Reading Journal*, Fall 1985, *19*(1), 7-11, 16.

Describes the development of word lists for second and third graders with an indication of the learning difficulty for each word and provides an index of its frequency of occurrences in children's reading materials. The *Harris-Jacobson Core Third Reader List* of 883 words was used in pretesting. Subjects were 111 children in grades two and three in one school. Incorrect responses for each of the 883 words were tabulated and the percentage of subjects incorrectly identifying each word was calculated. Sixteen of the least recognized from the pretesting sessions with second graders were chosen for the second grade list. After testing third graders, 15 of the least recognized words were selected for the third grade list. Children were taught the words from a given list, using a trials-to-criterion design. The 16 words from the second grade and the 15 from the third grade lists were arranged according to difficulty using the average number of trial to criterion attempts as the index of difficulty. The two lists were also arranged in the order of their frequency of occurrence in children's printed reading materials as determined by *The American Heritage Word Frequency Book*. Frequency of occurrence correlated -.5559 at grade two with the index of difficulty of words and -.6357 at grade three. A comparison was made of the number of trials needed to reach criterion for each word for the boys and the girls in each group. At both grade levels boys needed slightly fewer trials to learn the words to criterion (.2 fewer trials at grade two, .1 at grade one).

GROFF, PATRICK. Connotations and word reading. *Ohio Reading Teacher*, January 1984, *18*(2), 11-13.

Examines the relation between children's ability to read a word and the number of meanings of the word. Data from a previous study were used concerning the ability of over 200 fourth-graders to read 1,302 words. The pupils responded to a three-item multiple-choice written test. The number of meanings cited in a large dictionary for each word was noted. A correlation coefficient of .046 was obtained between the number of meanings cited, and the number of correct responses to the word.

GROFF, PATRICK. Word familiarity and spelling difficulty. *Educational Research*, February 1984, *26*, 33-35.

Reanlyzes data collected by previous researchers to investigate the relation between children's familiarity with the meaning of written words and their abilities to spell them. In the reanalysis, a Pearson Product Moment correlation coefficient of .20 was obtained between the scores of fourth graders on multiple-choice vocabulary tests, and spelling scores of fourth-graders on Greene's *New Iowa Spelling Scale*. A Pearson Product Moment correlation coefficient of .49 was obtained between second-graders' use of words in themes and the frequency of their spelling errors on these words. It is contended that correlations obtained between children's familiarity with words and their abilities to spell them are too low to have any value for predictive purposes.

TREIMAN, REBECCA. Individual differences among children in spelling and reading styles. *Journal of Experimental Child Psychology*, June 1984, *37*, 463-477.

Explores the differences among children in their reliance on spelling-sound rules and word-specific associations in both reading and spelling words. Subjects were 24 third graders and 22 fourth graders. All subjects were individually tested on a project-developed spelling test and a word reading test. The fourth graders were also given a rapid reading test (word list). The tests were constructed so as to include regularly spelled words, exceptional words, and nonsense words. Significant correlation coefficients were found in performance among all three pairs of word types. However, in both spelling and reading, the coefficient of correlation between performance on nonsense-exceptional words was lower than that between regular-exceptional words, suggesting that children who are skilled at rules use them to aid performance on both nonsense and regular words. An analysis of reading and spelling errors also yielded insights into the processes subjects had used.

NORRIS, D. The mispriming effect: Evidence of an orthographic check in the lexical decision task. *Memory & Cognition*, September 1984, *12*, 470-476.

Tests two models of the effects of mispriming visually similar words: the criterion-bias and the search models. The criterion-bias model predicts that misprimed words tend to be classified more rapidly and with fewer errors than unprimed words, whereas the search model predicts a greater number of errors in classifying misprimed words. The target words in the experiment were visually similar word pairs. Misprimed words were words that were presented immediately before the target word and were semantically associated with only one of the words in each target pair. Stimuli were presented on a CRT. In the priming condition, the priming word was exposed .5 sec, followed 1.5 secs. later by the target word, which was exposed for 2.5 secs. In addition to the 22 experimental trials, there were 78 filler trials, 30 related word pairs, 8 unrelated word pairs, and 40 word-nonword pairs. The pattern of results was shown to be inconsistent with the search model and consistent with a criterion-bias model supplemented by an orthographic checking process.

COLOMBO, LUCIA. Activation and inhibition with orthographically similar words. *Journal of Experimental Psychology: Human Perception and Performances*, May 1986, *12*, 226-234.

Reports a series of three experiments which examine features of a model of word recognition. All studies used a priming paradigm requiring a lexical decision task with Italian words. Subjects were Italian university students. In Experiment 1, both words and pseudowords were used as targets, primed by rhyme or control words and pseudowords. Several significant findings were observed, the main one being the interaction between type of target (word-pseudoword) and type of relation (rhyme-control). An inhibitory effect was found when targets were words but not when they were pseudowords. Experiment 2 sought to verify differing effects of inhibition on high-frequency versus low-frequency words. Results showed

a facilitation for low-frequency words primed by a rhyme. Experiment 3 examined how inhibition operates with words of the competing set that share the initial letters with the prime word. The interaction between frequency and orthographic similarity was not significant. Both high- and low-frequency words showed an effect of inhibition. Overall results are explained in terms of a verification model of word recognition.

SIMPSON, GREG B., & FOSTER, MOLLIE RAMSEY. Lexical ambiguity and children's word recognition. *Developmental Psychology*, March 1986, *22*, 147-154.

Reports two experiments examining word recognition processes of children in grades 2, 4, and 6. Subjects numbered 24 at each grade level in Experiment 1 and 36 at each grade for the second experiment. Subjects in Experiment 1 were shown 60 pairs of words in which the first word of the pair had more than one meaning, and the second word was related through either the dominant or subordinate meaning or was unrelated. Children were to read the second word aloud as rapidly as possible. In Experiment 2, subjects were again asked to name the second of two visually presented words. However, the amount of elapsed time between presentation of the prime word and the target word was varied. The target followed the prime by 150, 300, or 750 ms. The same 60 ambiguous prime words and target as in Experiment 1 were used. Also included was a neutral prime consisting of a row of dashes. All groups showed automatic retrieval of the ambiguous word. However, in sixth graders the retrieval was followed by a second stage in which attention was given to the more frequent meaning. The authors state that their findings are generally compatible with a two-stage model of ambiguous word processing in which all meanings are first activated, but then all except one are subsequently discarded.

ROSSON, MARY BETH. The interaction of pronunciation rules and lexical representations in reading aloud. *Memory & Cognition*, January 1985, *13*, 90-99.

Examines, in two experiments, the role of pronunciation rules and of lexical information in pronouncing letter strings. Subjects in both experiments were 64 college students, 32 in each. In Experiment 1, the subjects' task was to pronounce pseudowords that varied in degree of pronunciation rule strength and level of lexical availability. Rule strength was defined as the number of instances in the English language in which the phonological rule was used; half the words had strong rule strength, half had weak rule strength. Level of lexical availability was defined as pseudowords that varied from the real or neighbor words by only one letter; half the pseudowords had lexical neighbors, half had no lexical neighbors. In Experiment 2, the stimuli were real words with strong and weak rule strength and with high or low usage frequency. Dependent variables in both experiments were response latencies and errors. Words with strong rule strength, with lexical neighbors and with high frequencies were recognized more rapidly and with fewer errors. There was a significant interaction between pronunciation rules and lexical information. When rules were strong, the relative availability of lexical information was less important; but when rules were weak, lexical information was important.

FLORES D'ARCAIS, GIOVANNI B. Lexical knowledge and word recognition: Children's reading of function words. *Visible Language*, Autumn 1984, *18*, 353-371.

Compares children's recognition of Dutch function and content words through a series of five experiments. Specifically, the studies addressed: 1) whether a developmental difference exists in the recognition of content and function words, 2) the difference in availability of words from the two classes in reading, 3) whether the difference in lexical availability of content and function words is due to grammatical class or meaningfulness, and 4) the extent to which context affects the recognition of function words. Two lexical decision experiments compared the availability of connectives and prepositions with that of content words. A third experiment presented a semantic categorization task, in which subjects decided whether con-

tent and function words were words referring to the concept of time or not. The fourth was a probe latency experiment in which the subjects were required to decide whether a given word (a connective, preposition, verb, or noun) had been part of a sentence previously presented. The fifth experiment investigated word recognition in context. Subjects for the two lexical decision experiments as well as the probe latency experiment included children from the second and fourth grades and an adult control group. In addition to subjects from these groups, the experiments addressing semantic categorization and word recognition in context included children from the sixth grade. All experiments revealed main effects for age and category of words. For children, function words required longer processing time and were thus considered less available in their mental lexicons. Context aided recognition of function words at a higher age; younger children were only able to use contextual support in recognizing content words. For the probe latency and word recognition in context experiments, the experimental words were judged for their semantic richness. Analyses indicated that grammatical class and meaningfulness separately contributed to the availability of the words in the reading process.

FEUSTEL, TIMOTHY C.; SHIFFRIN, RICHARD M.; & SALASOO, AITA. Episodic and lexical contributions to the repetition effect in word identification. *Journal of Experimental Psychology: General*, September 1983, *112*, 309-346.

Cites results of five experiments employing a new technique to study the repetition effect in word identification and proposes a model to explain it. The repetition effect is defined as the enhancing effect of a single presentation of a word on the speed and accuracy of identifying it in subsequent presentations. All subjects were undergraduate psychology students and numbered 69, 42, 18, 35, and 34, respectively, in the five experiments. In each experiment, subjects were tested individually and viewed stimuli on a screen. The findings suggested that the repetition effect in word identification is derived largely from memory for individual episodes. Large repetition effects were found for nonwords. Findings indicated separate contributions of lexical status and presentations to the repetition effect. There was suggested a minimal role for low-level physical features while letter name clusters appeared to play some role in the repetition effect.

DOBBS, ALLEN R.; FRIEDMAN, ALINDA; & LLOYD, JULIE. Frequency effects in lexical decisions: A test of the verification model. *Journal of Experimental Psychology: Human Perception and Performance*, February 1985, *11*, 81-92.

Conducts four experiments in an effort to test the verification model of frequency effects in lexical decision tasks. Each study employed 16 Canadian undergraduate students as subjects. Experiments 1, 2, and 3 used 36 high-frequency words, 36 low-frequency words, and 72 nonwords as targets. Stimuli were from three to nine letters long and were arranged in four sequences in random order but with certain restrictions. Subjects viewed stimuli on a video screen and pressed a button to indicate word or nonword responses. In Experiment 1, stimuli remained visible until a response was obtained. For Experiment 2, stimuli were illuminated for only one retrace; and in Experiment 3, the stimulus remained on the screen for only one cycle, followed by a blank screen for three cycles (50 ms), and then a mask was displayed for six cycles (100 ms). Instructions to subjects emphasized speed of response. For Experiment 4, 27 quartets of new stimuli were presented so that high-frequency, low-frequency, and nonwords were matched for digram frequency. In the first three experiments, the effect of word frequency on decision latencies was comparable in all studies. The data were interpreted as indicating that frequency has its effects prior to verification and that the idea of verification as the only basis for frequency effects needs revision.

BURANI, CRISTINA; SALMASO, DARIO; & CARAMAZZA, ALFONSO. Morphological structure and lexical access. *Visible Language*, Autumn 1984, *18*, 342-352.

Utilizes two experiments to assess whether frequency of the root-morpheme of a word or frequency of the surface form of a word determines decision latencies in a lexical decision task. Subjects were 41 and 20 students, respectively, all attending Rome University and native speakers of Italian. Experiment 1 was divided into two smaller experiments. Subjects were presented three sets of words, and an equal number of orthographically legal nonwords. The two parts of Experiment 1 differed in that in 1b there was a more stringent constraint placed on the construction of nonwords than 1a. Response times to identification of words were recorded. Experiment 2 was similar to Experiment 1. Both root-morpheme frequency and surface frequency contributed to reaction time latencies. The authors argue for a model of lexical organization which represents words in morphologically decomposed form.

BENTIN, SHLOMO; BARGAI, NETA; & KATZ, LEONARD. Orthographic and phonemic coding for lexical access: Evidence from Hebrew. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, July 1984, *10*, 353-368.

Investigates the role of phonemic mediation for lexical access when printed Hebrew words are presented in isolation. Three experiments are reported, each utilizing eight male and eight female undergraduate students, all native speakers of Hebrew. In Experiment 1, word naming for unvowelized strings of consonants that represent different words was compared with word naming for consonant strings having a single pronunciation. Experiment 2 studies lexical decisions to these same stimuli. While naming was slower when several pronunciations were possible, the phonemically ambiguous strings were not recognized more slowly in a lexical-decision task. Results of Experiment 3 showed that nonword homographs were rejected more slowly than were nonword homophones. The findings suggested that, in Hebrew, orthographic codes have a more important role in the word recognition process than do phonemic codes, particularly in comparison with the roles played in other languages.

BALOTA, DAVID A., & CHUMBLEY, JAMES I. Are lexical decisions a good measure of lexical access? The role of word frequency in the neglected decision stage. *Journal of Experimental Psychology: Human Perception and Performance*, June 1984, *10*, 340-357.

Investigates in three experiments the impact of five lexical variables on performance in three different word recognition tasks: category verification, lexical decision, and pronunciation. Subjects were 20, 20, and 40 undergraduate students, respectively. The five lexical variables were instance dominance, category dominance, word frequency, word length in letters, and word length in syllables. In all three experiments, subjects saw 72 target words. Word frequency was found to have minimal effect in the category verification task, but a significantly larger effect in the pronunciation task, and a significantly larger effect yet in the lexical decision task. Log word frequency showed almost no correlation with category dominance. A two-stage model of the lexical decision task is described which accounts for the role of word frequency and other variables in lexical decision.

NORRIS, DENNIS. The effects of frequency, repetition and stimulus quality in visual word recognition. *Quarterly Journal of Experimental Psychology*, August 1984, *36A*, 507-518.

Reports the results of a lexical decision experiment. Sixty-six college students were tested individually using a lexical decision task. Materials consisted of 30 word pairs and 30 nonword pairs that were equated for word length and number of syllables. Word frequency, stimulus quality, and repetition were manipulated as independent variables. Response latencies were used as the dependent variable. Significant main effects were found for frequency,

repetition, and stimulus intensity. A number of significant interactions were also found. The findings and their implications for word recognition are discussed within the framework of Becker's verification model.

RASH, JUDY; JOHNSON, TERRY D.; & GLEADOW, NORMAN. Acquisition and retention of written words by kindergarten children under varying learning conditions. *Reading Research Quarterly*, Summer 1984, *19*, 452-460.

Presents words to 72 British Columbia kindergarten children under two instructional conditions: isolated word, and word in sentence. Children were tested on three separate occasions. On occasion 1, eight targeted words were presented in isolation. If subjects knew any of the targeted words, they were dismissed from the study. If words were not known, the treatments were administered, with each treatment repeated for three training trials. Following the three trials, each target word was tested in random order, with subjects given 7 seconds to respond. Teach/testing continued until each word had been correctly identified twice or the number of allowed trials to criterion had passed. Twenty-four hours later, subjects were individually tested using the words in the initial treatment condition as well as the words embedded in eight new sentences. Subjects were also shown four sentences and asked to identify if there were any known words. Three weeks later, this same procedure was followed to study long-term retention. The group receiving words in sentences learned words in significantly fewer trials. On short-term and long-term retention, scores for the words in sentences group were significantly different than scores for other groups. No significant difference between treatment groups was found for total retention between the 24-hour and 3-week testing periods.

FELDMAN, LAURIE B.; LUKATELA, G.; & TURVEY, M.T. Effects of phonological ambiguity on beginning readers of Serbo-Croatian. *Journal of Experimental Child Psychology*, June 1985, *39*, 492-510.

Investigates the rapid meaning of printed letter strings by Yugoslavian children. A sample of 34 third-grade and 34 fifth-grade pupils, proficient in both the Roman and Cyrillic alphabets, performed a naming task on two lists of items, a pretest and a test. The lists consisted of real words and pseudowords manipulated to assess the effects of phonological ambiguity. There were four types of words (ambiguous/pure x Roman/Cyrillic) and three types of pseudowords (ambiguous/pure Roman/pure Cyrillic). Reaction time served as the major dependent variable. Separate analyses were conducted on word, pseudoword, and slow latency data. Results for words revealed significant main effects for grade (third graders were slower), for alphabet (Cyrillic words were faster), and phonology (ambiguous words were slower). Analysis of incorrect and slow responses yielded similar results with the exception of no main effect of alphabet. Analysis of pseudoword latencies also found a significant effect for phonology and a marginally significant effect for grade level.

TUNMER, WILLIAM E., & NESDALE, ANDREW R. Phonemic segmentation skill and beginning reading. *Journal of Educational Psychology*, August 1985, *77*, 417-427.

Explores the phonemic segmentation ability of beginning readers. Sixty-three first-grade Australian pupils were administered tests of verbal intelligence, phonemic segmentation, and reading achievement. The segmentation test included real words and pseudowords, one-half containing digraphs and the other half not. A 2 (word type) by 2 (digraph type) ANOVA yielded a significant main effect for digraph type and a significant interaction. A 2 (decoding ability) by 2 (word type) ANOVA revealed significant main effects for word type, decoding ability, and the interaction. Intercorrelations were determined for all the tests. Nondigraph word segmentation was more strongly correlated with each of the subtests of reading achievement than was segmentation of digraph words. A path analysis model found phonological awareness influenced reading comprehension indirectly through its influence on phonological recoding ability. However, the development of phonological awareness was not greatly affected by method of instruction.

GLUSHKO, ROBERT J. Principles of pronouncing print: The psychology of phonography. In Alan M. Lesgold & Charles A. Perfetti (Eds.) *Interactive Processes of Reading*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1981, 61-84.

Proposes an interactive framework for the process of reading aloud and the identification of words. Argues that as letters in a word are identified, an entire neighborhood of words that share orthographic features is activated in memory, and the pronunciation emerges through the coordination and synthesis of many partially activated phonological representations. Maintains that this activation model, which the author calls phonography, is all that is necessary to explain word recognition and that it explains both phonically regular words and phonically irregular words; therefore, the author contends, there is no need to access memory for the pronunciation of the irregular words or for spelling-to-sound rules. The major portion of the paper is devoted to dispelling the spelling-to-sound rules model of decoding. Three studies by the author are presented briefly to support his theory. The author concludes with four claims: phonological activation is automatic, phonological activation is of a single type, latency and accuracy penalties result from interference when the activated phonological knowledge is inconsistent, and that the activated phonological knowledge is specific rather than abstract.

TRIESMAN, ANNE, & SOUTHER, JANET. Illusory words: The roles of attention and of top-down constraints in conjoining letters to form words. *Journal of Experimental Psychology: Human Perception and Performance*, February 1986, *12*, 3-17.

Investigates the roles of focused attention and top-down constraints resulting from word familiarity on ability to detect correct combinations of letters to form syllables and words. There were 16 subjects in two of the three experiments conducted and 8 in the other; all subjects were college students. Stimuli in two of the experiments were three letter, CVC, words and nonwords. Stimuli in the other experiment were the same, except all vowels were replaced by a consonant. In Experiment 1, the subjects' task was to determine if a display of four words or nonwords presented tachistoscopically did or did not contain the orally presented target word. There were four types of displays presented representing orthogonal combinations of real word – nonword and conjunction – control displays. Conjunction displays were distractor words that contained all the letters of the target word; control displays were distractor words that contained only two of the three letters of the target word. Experiment 2 was the same as Experiment 1, except the vowels in the displays and target words were replaced by a specific consonant. Experiment 3 was the same as Experiment 1, except subjects were not given a target word; their task was to report what they saw in the briefly presented display. More errors were made on conjunction displays than on control displays. The effects of the lexical status of the display (word or nonword) were small but significant. Search performance was further decreased when the displays were nonpronounceable, that is all consonants.

PARKIN, ALAN J. Redefining the regularity effect. *Memory & Cognition*, May 1984, *12*, 287-292.

Differentiates English words into varying degrees of the regularity on the basis of the frequency of their spelling-to-sound patterns and assesses the validity of this differentiation in word pronunciation tasks. Words were classified as unique when they contained a unique or unusual spelling-to-sound pattern (pint); mildly inconsistent if they possessed a minor correspondence at the grapheme-to-phoneme level but could be considered regular if a higher order rule were applied (health) or if they were words based on a letter pattern that is commonly pronounced in more than one way (glove); and regular when their pronunciation was regular by any definition. The subjects in both experiments were adults, 16 in Experiment 1 and 10 in Experiment 2. Thirty unique words and 30 mildly inconsistent words were each matched to regular words on the basis of length, word frequency and initial phoneme. Words were displayed on a CRT and the subjects' task was to pronounce the words. The dependent

variables were response latency and number of errors. Experiment 2 had the same materials and procedures, except a 1,500 msec delay was required of the subjects before they could respond. In Experiment 1, pronunciation latencies to unique words were significantly longer than their matched regular words, whereas the equivalent comparison for mildly inconsistent words was nonsignificant. When responses were delayed, there were no significant differences in response latency.

NELSON, DOUGLAS L.; CAÑAS, JOSÉ; CASANUEVA, DIANE M.; & CASTAÑO, DOLORES. Prior knowledge and recognition. *American Journal of Psychology*, Fall 1985, *98*, 379-397.

Conducts two experiments to examine the relation between word recognition and number of related concepts in permanent memory. The 16 and 20 subjects in Experiments 1 and 2 respectively were college students. Stimuli in Experiment 1 were target words that came from either a large or small pool of rhyming words, large pools meaning that there were many words that rhymed with the target and small pools meaning that there were only a few words that rhymed with the target. The target word was studied either alone or with a biasing context, that context being a rhyming word. Recall of the target words was tested with similar distractors (other rhyming words) or dissimilar distractors. The stimuli in Experiment 2 were constructed in the same manner, but similarity in associative meaning rather than rhyme was the manipulated variable. In both experiments, blocks of 16 target words were projected onto a screen, after which the target and its distractors were projected. The subjects' task was to identify the target. The ANOVA results indicated that words coming from small rhyming pools were recognized more accurately than words coming from large rhyming pools. There was no significant difference in the recognition rate of words coming from large and small meaning-related pools.

SALASOO, AITA; SHIFFRIN, RICHARD M.; & FEUSTEL, TIMOTHY C. Building permanent memory codes: Codification and repetition effects in word identification. *Journal of Experimental Psychology: General*, March 1985, *114*, 50-77.

Reports three experiments investigating the memory processes underlying codification and repetition effects in word identification. All subjects were students in an introductory psychology class and numbered 38, 10, and 8, respectively, for the three experiments. Stimuli consisted of word-pseudoword pairs. Pronounceable pseudowords were generated by replacing a single letter in each word. Three different stimulus display configurations were used in three experiments: 1) a traditional display consisting of a brief presentation followed by a mask; 2) a series of displays in rapid succession with the duration of the stimulus item relative to the mask increasing by a small amount with each successive presentation; and 3) a brief mask prior to a display. In Experiments 2 and 3, after about six repetitions in two threshold identification tasks, the initial advantage of words over pseudowords disappeared. Performance continued to improve in both tasks with additional repetitions. After a one-year delay, the previously repeated pseudowords were identified as accurately as previously repeated words but performance in both dropped to the level of new words. Identification of old pseudowords, and new and old words were superior to identification of new pseudowords, indicating that learned codes for pseudowords were as strong and as permanent as the codes for words. A model of identification is presented.

HUBA, MARY E. The relationship between linguistic awareness in prereaders and two types of experimental instruction. *Reading World*, May 1984, *23*, 347-363.

Explores the relation between kindergarteners' linguistic awareness and their response to instruction on a sight word learning task and a decoding-like task. During the screening stage, 82 subjects were evaluated for sound awareness (measured by initial sound

segmentation), rhyme production, Mow Motorcycle tasks, understanding of reading terminology used by teachers, knowledge of symbol-sound associations, recognition of sight words, ability to pronounce nonsense syllables, and verbal intelligence (*Peabody Picture Vocabulary Test*). Thirty-six of the 82 met the requirements for participation in the experimentation stage: inability to pronounce unfamiliar nonsense trigrams and ability to supply at least six symbol-sound associations. Subjects were taught six new sight words, with number of trials required to reach criterion for each word group during the training and the fifth trial of the test phase recorded. Subjects were also taught to substitute consonant sounds in nonsense phonograms, with trials to criterion and number of substitutions correctly made on the second test trial recorded. Sound awareness scores, particularly initial sound segmentation, were significantly related to performance on both sight word and decoding tasks, with scores being more predictive on the consonant substitution or decoding-like task. Ability to answer questions about reading-related information and terminology was unrelated to performance on either experimental task.

ROBERGE, JAMES J., & FLEXER, BARBARA K. Cognitive style, operativity, and reading achievement. *American Educational Research Journal*, Spring 1984, *21*, 227-236.

Examines the effects of field dependence-independence and level of operativity on the reading achievement of 450 pupils in grades 6, 7, and 8 with above average intelligence. The *Group Embedded Figures Test* (GEFT) served as the measure of cognitive style, the *Formal Operational Reasoning Test* (FORT) as the measure of logical thinking abilities, and the Word Knowledge and Reading tests of the *Metropolitan Achievement Tests* as the measure of reading achievement. Subjects were divided into cognitive style groups according to performance on the GEFT, with separate groups for each sex. Subjects in the top third were considered field independent; subjects in the bottom third were field dependent. Subjects were classified as high operational or low operational on the FORT. Significant main effects were found for grade level and operativity, but not for cognitive style or for interactions. High operational children outperformed low operational subjects on both measures of reading achievement.

NAS, GERARD. Visual word recognition in bilinguals: Evidence for a cooperation between visual and sound based codes during access to a common lexical store. *Journal of Verbal Learning and Verbal Behavior*, October 1983, *22*, 526-534.

Compares mismatches in sound and mismatches in spelling produced by 14 Dutch-English bilingual students at a Dutch university, when Dutch pseudowords were used as stimuli in English lexical decision experiments. In Experiment I, 40 Dutch words were selected that differ from their Dutch pronunciation if they are pronounced according to English sound/symbol correspondence rules. In addition, 40 nonwords and 80 high frequency English words were selected. Subjects responded to whether a projected stimulus was an English word or not. Mean reaction times were calculated, indicating that reaction time was slower for Dutch words than nonwords, and a greater percentage of errors occurred on Dutch words. In Experiment II, 40 pseudohomophones were constructed by changing the spelling of Dutch words according to English sound-symbol correspondences. In addition 40 nonwords and 80 high frequency words were selected. The results were similar in that reaction times for pseudohomophones were significantly slower and produced a greater percentage error rate than the nonword control. The researchers contend that the results support a cooperation model of lexical access while providing evidence against a phonological recoding model. Further, they support the idea of a common store in memory for words from two languages.

LYNCH, P.P.; CHIPMAN, H.H.; & PACHAURY, A.C. The language of science and the high school student: The recognition of concept definitions: A comparison between Hindi speaking students in India and English speaking students in Australia. *Journal of Research in Science Teaching*, October 1985, *22*, 675-686.

Compares the recognition of 16 science concepts by Hindi speaking students and English speaking students. Based on an examination of classroom notes and school texts, 16 concept words associated with the nature of matter were identified and presented in multiple-choice format to 1,635 Australian and 835 Indian high school subjects. Students were from grades 7 through 10. Mean overall scores were identical for both groups. However, there were differences within individual groupings of concepts.

JENKINS, JOSEPH R.; STEIN, MARCY L.; & WYSOCKI, KATHERINE. Learning vocabulary through reading. *American Educational Research Journal*, Winter 1984, *21*, 767-787.

Examines the hypothesis that new vocabulary knowledge can be acquired through incidental learning of word meanings from context. The 112 fifth graders were stratified according to reading scores on the *California Achievement Tests* into groups of able and less able readers and were randomly assigned to different numbers of context presentation (2, 6, or 10 passages) read over several days. Passages were written so that the 18 unfamiliar words occupied conceptually relevant roles in the paragraphs. Paragraph-specific questions were also prepared. Half of the words were taught before they were read in context. Four posttest measures were administered: supply definition; select definition; a sentence completion measure; and a constructed reading comprehension test, where there were few context clues. Significant differences were found for word factor, reading ability, and prior exposure. Context effects were significant for definitional measures but not for sentence completion. Performance varied with exposure. A three-way analysis of variance produced significant effects for ability and passage, but not for context.

ROBINSON, SANDRA LONGFELLOW, & JOHNSON, MARY STEPPE. The mathematics vocabulary survey: How well do students read and understand mathematical terms? *Kappa Delta Pi Record*, Winter 1982, *18*, 42-44.

Determines whether 30 subjects, ages 8 to 17, can pronounce and define the 30 terms on the researcher created Mathematics Vocabulary Survey. Words were randomly selected from third-grade math textbooks and were representative of three categories: process words, directional words, and numerical words. Subjects were tested individually. With numerical words, subjects were asked to write the numbers associated with the numerals. If a subject could not read a term, the administrator read it for him, and then asked for the definition. More errors were made in the pronunciation and definition of process words than directional or numerical words. Students made more mistakes on directional words than numerical terms. Only two subjects could identify all terms.

JOHNSON, CRAIG W.; ADAMS, MARIANNE; & BRUNING, ROGER. Keywords and vocabulary acquisition: Some words and cautions about words of assistance. *ECTJ*, Summer 1985, *33*, 125-138.

Studies, in two experiments, the effects of the several methods of teaching technical vocabulary. All subjects were native English speaking college students, 133 in Experiment 1 and 122 in Experiment 2. Stimuli in both experiments were 15 abstract and 15 concrete concepts, matched with respect to comprehensibility and complexity of their definitions. All words were low-frequency English words. Each word was matched with a keyword that: sounded the same as the target word; was concrete; and was a high-frequency noun, easy to understand, and semantically unrelated to the target word. Subjects read the 30 words and their definitions and then performed imagery tasks or verbal tasks. There were five methods:

1) read and copy, in which subjects read and copied definitions; 2) paraphrasing, where subjects wrote the definitions in their own words; 3) imagery, in which subjects were to form a mental picture representing the word's meaning; 4) imagery keyword, where subjects were to construct mental pictures representing the spatial relation of the keyword and the definition and to concentrate on that mental image; and 5) verbal keyword, wherein subjects were to construct a plausible relation between the keyword and definition and to write that relation several times. Subjects studied the words, definitions, keywords and imagined or wrote their required responses for one minute per word. Protocols were also scored to determine the level to which subjects did use the method they were instructed to use. Experiment 2 differed from Experiment 1 only in that subjects were given more intensive training, individual feedback, and practice in using the methods prior to learning the new vocabulary. ANOVA results from Experiment 1 found that keywords facilitated immediate comprehension of concrete items. Imagery keyword methods were more effective than verbal keyword methods on the immediate test, but not on the delayed test. Concrete meanings were better retained than abstract meanings. Read and copy procedures resulted in significantly greater delayed recall than the four elaborative methods. Also, level of correct usage of the training method correlated with immediate and delayed retention .53 and .46 respectively. Unlike Experiment 1 results, the elaborative procedures in Experiment 2 tended to be superior to the read and copy strategy in the step-down F for the immediate test, but not the delayed test. Further, imagery strategies were more effective than verbal strategies, but only in the step-down F. Concludes that the effectiveness of keyword methods depended upon the level of abstractness of the words to be learned and whether retention was immediate or delayed. Also argues that utilizing keyword methods when students must learn conceptually difficult terms, requires extensive practice and teaching.

McCormick, Christine B., & Levin, Joel R. A comparison of different prose-learning variations of the mnemonic keyword method. *American Educational Research Journal*, Summer 1984, *21*, 379-398.

Cites two experiments comparing the effectiveness of different variations of the mnemonic keyword method on the recall of information in prose passages. In Experiment 1, a sample of 220 eighth-graders were randomly assigned to one of five treatment conditions: three variations of the keyword method and two controls. Subjects were instructed to use the methods while reading fictitious biographies. Recall was assessed through 20 short answer questions. Each of the three keyword treatments resulted in significantly greater total recall than the controls. In addition, the pattern of recall, in terms of clustering and sequencing information, was qualitatively different than that of the controls. In Experiment 2, with 82 seventh- and eighth-graders, keyword treatments were reduced to two and recall was assessed, both immediately and on a delayed basis, by a name-attribute matching test. The results were similar to those of the first study.

Stahl, Steven A., & Fairbanks, Marilyn M. The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, Spring 1986, *56*, 72-110.

Reports a meta-analysis of 52 studies concerned with vocabulary instruction, to examine: 1) the effect of such instruction on the comprehension of text, and 2) the effectiveness of various types of instruction. The studies, identified from a computer search of the ERIC document service, past reviews, and bibliographies, had to use a control group and provide sufficient statistical information for inclusion. Each teaching method was classified according to setting (group or individual study) and by instructional method. Instruction methods were rated (A) on a five-point scale for the emphasis placed on definitional or contextual presentation of words, (B) on a three-point scale in terms of the depth of processing required, and (C) according to the number and type of exposures the words received. The type of

comprehension assessment measure used, in terms of being word-specific or global, was also noted. Vocabulary instruction was found to have an effect on the comprehension of passages containing the taught words (effect size .97; $p < .01$), and on standardized measures of comprehension (effect size .30; $p < .01$). However, methods that provided only definitional information about the taught words did not have an effect on comprehension. Mixed methods, which provided both definitional and contextual information, had the greatest effect (effect size .64; $p < .01$), and keyword methods affected vocabulary knowledge ($p < .05$). Setting was not a significant factor, while the depth of processing and exposure factors had different effects depending on the instructional method and outcome measure.

STAHL, STEVEN A. To teach a word well: A framework for vocabulary instruction. *Reading World*, March 1985, *24*(3), 16-27.

Offers a framework for teaching the meanings of words that can be employed in effective vocabulary instruction. In developing the framework, the author relies heavily upon the research literature. Results of methods comparison studies are reviewed and found to support the framework. In particular it is argued that the most effective vocabulary instruction provides both definitional and contextual knowledge about a word.

NEMKO, BARBARA. Context versus isolation: Another look at beginning readers. *Reading Research Quarterly*, Summer 1984, *19*, 461-467.

Designs a study comparing the efficiency of introducing words in isolation and words in context. Subjects were 96 children from five first-grade inner-city classes, pretested to ascertain they could not read any of 16 target words but could read the words which were used in sentence contexts. All were trained, then tested in word recognition in two 30-minute sessions, with 24 hours elapsing between sessions. In the first session, children received word recognition training and were tested on half the words; in the second session, the same procedures were followed for the second half of the words. Each target word was presented and tested in isolation, presented and tested in context, presented in isolation, with training/testing conditions arranged in a Latin Square design. Subjects thus learned four words in each of the four conditions. The criterion variable was the number of correct identifications of target words. Results revealed that words taught in context were not learned better than ones in isolation; the only significant difference was associated with words both learned and tested in isolation.

TOMPKIN, ELIZABETH H. Vocabulary development: Presenting new words in context. *Illinois Reading Council Journal*, Spring 1984, *12*(1), 13-17.

Explores some of the conclusions researchers have reached regarding the relation between vocabulary instruction and comprehension, describes a variety of ways that have been the focus of researchers interested in trying to teach vocabulary in context, and discusses the desirability of employing a contextual method of developing vocabulary knowledge. An example of an instructional application using a contextual presentation for a word is given.

MCKEOWN, MARGARET G. The acquisition of word meaning from context by children of high and low ability. *Reading Research Quarterly*, Summer 1985, *20*, 482-496.

Investigates differences in the process of acquiring word meaning from context in learners at different levels. A five-step meaning-acquisition task, using artificial target words, was designed based upon a hypothesized view of an effective process of acquiring word meaning from context. The task was administered individually to 30 fifth-grade pupils dichotomized as having either high or low vocabulary ability. Separate scores were obtained for each step of the process. A series of t-tests as well as qualitative analyses were conducted.

Findings revealed significant differences in favor of the high-ability group, differences in the types of errors made by each group, and differential difficulty within certain stages of the task.

WHITNEY, PAUL; MCKAY, TIMOTHY; KELLAS, GEORGE; & EMERSON, JR., WILLIAM A. Semantic activation of noun concepts in context. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, January 1985, *11*, 126-135.

Utilizes a Stroop-like procedure to examine the role of sentence context in guiding semantic access of unambiguous nouns. Participants were 144 introductory psychology students who listened to a series of sentence contexts which primed either a high-dominant or a low-dominant property of the noun which was the last word in the sentence. Nouns were printed in colored ink and appeared either immediately or after a 300- or 600-ms delay following the sentence context. Four sentences were constructed for each of 24 object nouns: one emphasizing the high-dominant property of the noun, one emphasizing the low-dominant property, and two control sentences in which the critical noun was replaced with a different noun. Each subject saw one prime and one target from each sentence set. Subjects were randomly assigned to one stimulus list and one interstimulus interval (0, 300 ms, and 600 ms). Findings included a significant color-naming interference for high-dominant properties regardless of biasing context in the immediate and delayed conditions. There were also a significant color-naming interference for low-dominant properties in the immediate condition regardless of context. In the delayed conditions, color-naming interference occurred in the low-dominant properties only when preceded by contexts biasing interpretation toward the low-dominant property. The authors concluded that initial semantic access is context independent.

SEIDENBERG, MARK S.; WALTERS, GLORIA S.; SANDERS, MICHAEL; & LANGER, PEARL. Pre- and postlexical loci of contextual effects on word recognition. *Memory & Cognition*, July 1984, *12*, 315-328.

Attempts to determine if contextual information enters into the process by which a word is recognized or if it influences processes that occur after the word has been recognized. The subjects of the four experiments conducted were college students, 80, 40, 66, and 36 respectively. The stimuli of all four experiments were pairs of words, a prime word, and a target word, that varied on their degree of semantic, syntactic, and associative relations. The procedures of the four experiments were all the same; subjects viewed a prime word on a CRT and then were shown the target word, to which they responded either by pronouncing the target word or indicating if it was a word or nonword. The dependent variables were response latencies for the lexical decision tasks and number of errors for the pronunciation task. The results of the experiments indicated that targets that have semantic or associative relations with the prime are recognized more rapidly or more accurately.

SVEEN, RONALD A. Readers' strategic knowledge during contextual word learning. *Reading-Canada-Lecture*, Spring 1986, *4*, 42-48.

Investigates the cognitive processes underlying contextual word learning. Ten good readers and 10 poor readers were selected from three Canadian sixth grade classes. Good readers scored above the 60th percentile on a standardized reading test (unspecified), and poor readers scored below the 40th percentile. Good and poor readers differed ($p < .001$) in the number of words they said they knew on a list of 306 words. Unknown words were selected as target words in the main study. Three selections were prepared, each of six sentences. Each selection contained an underlined target word in all but the first sentence. Oral protocols were individually collected concerning the identification of target word meaning as each sentence was presented consecutively. After reading each selection, subjects gave a definition of the target word. They then estimated on a scale from zero to eight how good their

definition was. This was compared, as a task awareness measure, to a prediction made prior to reading of how well they would learn the word. Good and poor readers differed in their predictions ($p < .02$), but not in their assessment of performance. Good readers provided better word definitions ($p < .001$), and on the word acquisition strategy used ($p < .001$) in terms of being holistic or analytic. Readers who used an analytic strategy in contextual word learning gave better definitions than holistic strategy users ($p < .002$), and knew more words ($p. < .01$).

IV-9 Factors in interpretation

JOHNSON, BARBARA E., & JOHNSON, DALE D. Elementary students' comprehension of anaphora in well-formed stories. *Journal of Educational Research*, March/April 1985, *78*, 221-223.

Examines the proficiency of elementary pupils in comprehending anaphoric relations in longer discourse. Subjects were 261 third- and 175 sixth-grade pupils. Two story protocols, one third-grade and one sixth-grade, were adapted from basal readers. Fifty cohesive anaphoric relations were randomly selected from all those identified in each passage. Each anaphoric relation was underlined in the passage and accompanied by a wh-type question which appeared immediately in the right hand column. Subjects were told to silently read the story and to write their responses to each question. The mean number of correct responses was 72% for third graders and 78% for sixth graders. A t-test found the difference to be significant.

PIPER, DAVID. Syllogistic reasoning in varied narrative contexts: Aspects of logical and linguistic development. *Journal of Psycholinguistic Research*, January 1985, *14*, 19-43.

Examines the effects on syllogistic reasoning of three narrative texts: a fantasy passage, a realistic passage, and a contractual passage. Subjects, 44 sixth graders and 44 twelfth graders, were given booklets in which they were to solve 9 syllogistic problems for each of three texts. Syllogisms varied in a way which related to the three text types in that their first premise was either an abstract statement (related to fantasy text), a concrete statement (related to realistic text), or an inducement statement (related to contractual text). Additionally, the set of 9 syllogisms included two which had to be recognized as erroneous, one in positive and one in negative form. Subjects selected their response and then completed the reason for the choice. Sixth graders did better than twelfth graders on problems following the fantasy narrative, while twelfth graders did better on the other two. The author suggests that views about concrete-versus formal-operational reasoning abilities and about the distinction between abstract and concrete materials need to be reassessed within a discourse processing framework which is sensitive to the discourse in which problems are embedded.

FAIGLEY, LESTER, & MEYER, PAUL. Rhetorical theory and readers' classifications of text types. *Text*, 1983, *3*(4), 305-325.

Examines how readers classify texts by type in three separate studies: Experiment 1 controlled for purpose, style, and genre, but left subject matter uncontrolled; Experiment 2 controlled for purpose, style, genre, and subject matter; and Experiment 3 controlled for genre, but left all other variables uncontrolled. Subjects formed two groups: one group knew rhetorical theory and was composed of faculty members and graduate students in a graduate rhetoric program; the second group consisted of college freshmen and sophomores unfamiliar with rhetorical theory. In the first study, subjects were given 16 passages and told to group them according to type, creating at least two but fewer than 16 groups. Low knowledge students grouped the passages in ways similar to high knowledge subjects. In Study 2, using

similar procedures and analyses, results suggested that high knowledge subjects were consistent in their groupings, and that they perceived the texts along a single underlying dimension. Patterns of high and low knowledge subjects were similar. In Study 3, using different passages, subjects were less consistent in grouping than in 1 and 2, but still able to group with consistency. Readers produced three distinct groups of texts: non-narrative, process, and narrative, and distinctions could be explained by linguistic concepts of aspect and time representation.

HOROWITZ, ROSALIND. Text patterns: Part I. *Journal of Reading*, February 1985, *28*, 448-454.

Describes text patterns found in schoolbooks and work contexts and indicates how research informs about readers' use of text patterns to process writing. Studies cited support the contentions that good readers use knowledge of text structure to comprehend and recall, that students who are aware of text structure recall significantly more from well-structured passages than from scrambled passages, and that explicit cues used by writers to alert readers to structure are used by readers to organize their recall of text. The reviewer notes five types of text patterns in school texts: temporal order (time order), attribution (list structure), adversative (compare-contrast), covariance (cause-effect), and response (problem-solution). It is argued that these structures should be introduced to readers in real texts and in light of specific goals, rather than in isolation and with no real purpose for reading.

HOROWITZ, ROSALIND. Text patterns: Part II. *Journal of Reading*, March 1985, *28*, 534-541.

Reports a training study designed to teach 33 community college students the cause-effect text organization pattern and strategies for recognizing and processing this pattern in history texts. All students were enrolled in one of three basic reading classes because of low high school records, low entrance scores, or lack of fluency in reading. They were significantly below college freshmen level reading ability according to the *Nelson-Denny Reading Test*. Each class was assigned to one of three conditions: 1) the read condition received training in recognizing and marking cause-effect relations as they were expressed explicitly or implicitly in college history texts; 2) the read and write condition received the same instruction plus additional instruction in writing answers to essay questions; and 3) the control condition received no training in recognizing and using cause-effect patterns, but continued routine developmental reading instruction. Following the training, students were given an essay question on each of two texts in counterbalanced order. Essays were analyzed for several features, including number of words produced and use of cause-effect structures. Combined reading and writing instruction produced significantly lengthier essays than routine reading instruction for both texts ($p < .05$). For Text B, it was also significantly better than the reading training alone ($p < .05$). In addition, training in reading and writing resulted in the use of significantly more cause-effect structures in the essays than either the reading training or the routine developmental reading instruction.

GARNER, RUTH. Text summarization deficiencies among older students: Awareness or production ability? *American Educational Research Journal*, Winter 1985, *22*, 549-560.

Investigates two explanations for text summarization deficiencies (awareness or production ability problems) in older learners. Forty students from each of three different age groups, 9th-grade English, 11th-grade English, and undergraduate reading methods classes, prepared optimal and nonoptimal short summaries for a descriptive scientific passage about physics. Subjects read the passage and wrote the summaries in their regular classrooms. Summaries were scored for four previously identified important ideas, for number of words and a target level of succinctness, and for idea integration. Age groups differed on awareness

of important ideas, production of important ideas, production of succinct summaries, awareness of the importance of integration of important information, and production of integrated summaries, with significant differences for most measures between the 9th graders and the college students. There was no significant difference for awareness of the importance of succinctness in the summaries.

SULLIVAN, JOANNA. Differences in critical reading performance between pupils in sixth and eighth grades. *Reading Psychology*, 1985, *6*(3-4), 231-240.

Examines differences between sixth and eighth graders in one aspect of critical reading: the ability to judge the truth value of factual and inferential statements related to social studies passages. Subjects consisted of 250 children in grade six and 276 in grade eight. The *California Short Form Test of Mental Maturity*, Level 2, showed groups were similar in intelligence with a mean IQ of 111.96 at sixth grade and of 112.09 at eighth grade. Critical reading was assessed by a measure designed for a previous study and consisted of 7 passages each followed by six statements. Statements were to be marked as true (T), probably true (PT), not enough facts (NE), probably false (PF), or false (F), on the basis of information in the passage. Grade six pupils had a higher percentage of errors than did grade eight pupils in 11 out of 42 statements. Six of the 11 statements where differences occurred were on NE statements and four were on F statements. The majority of sixth graders responded with F to the NE statements. Ten of the 11 statements in which differences occurred called for making judgments about implied ideas. No significant differences were found between groups on statements which were PT or PF.

GALDA, LEE. Research in response to literature. *Journal of Research and Development in Education*, Spring 1983, *16*(3), 1-7.

Discusses various theories of response to literature and then reviews research in that area. Methods of analysis utilized in such research are presented.

DENIS, MICHEL. Imagery and prose: A critical review of research on adults and children. *Text*, 1984, *4*(4), 371-401.

Summarizes and evaluates research on the role of imagery processes in prose comprehension and memorization. Subheads include: Imagery value and memory for narratives, Imagery activity and reading of (or listening to) narrative prose by adults and children, Aids to imagery for young children, Illustrations and processing of prose, Advance illustrations and organizational schemes, Pictorial vs. verbal narratives, and Individual differences in the spontaneous use of imagery in adults and children.

MURPHY, SANDRA. Children's comprehension of deictic categories in oral and written language. *Reading Research Quarterly*, Spring 1986, *21*, 118-131.

Examines children's ability to understand the use of deictic terms in oral and written language. Deictic words are words that convey information about the communication situation. Examples of three categories of deictic words were studied: possessive pronouns, locatives, and motion verbs. There were two types of written and spoken passages: a conversation between two participants and a direct statement to the reader/listener. The dependent variables were errors in answering questions after reading or listening to the passage. Subjects were 48 middle-class second graders, all native English speakers. Children were also screened on their ability to read the 40 words in the written task. In the written language task, subjects read short passages, and for the oral-language tasks, subjects listened to one or two speakers. Planned, between group comparisons were made using t-tests. Written-language tasks were more difficult than oral-language tasks, motion verbs were most difficult to interpret. The direct statement passages were easier to comprehend than the dialogue passages.

GEE, JAMES PAUL, & GROSJEAN, FRANCOIS. Empirical evidence for narrative structure. *Cognitive Science*, January/March 1984, *8*, 59-85.

Reports the results of three experiments that examine pausing as a factor that can provide empirical evidence for the narrative structure of relatively complex narratives. Three subjects were asked to tell, read aloud, and parse short folktales. Pause durations at sentence breaks were monitored and analyzed. Pause duration data were used to analyze the structure of the narratives and to correlate how closely that structure matched one derived from a theoretical model. Results found story telling to be a good predictor of narrative structure, oral reading not to be a good predictor, and parsing mixed, depending upon the linguistic clues present in the story.

HYNDS, SUSAN D. Interpersonal cognitive complexity and the literary response processes of adolescent readers. *Research in the Teaching of English*, December 1985, *19*, 386-402.

Explores the role of interpersonal cognitive complexity in the character impressions, story comprehension, response preferences, and literary attitudes of adolescent readers. Eighty-three 11th grade students completed all measures used in the study and served for the final data analysis. After completing a two-character role category questionnaire (one liked and one disliked peer) related to their peers, they read a short story, completed a response preference measure, a multiple-choice measure of comprehension, and a questionnaire addressing reading interests and transfer of reading experiences. Linear regression revealed a significant positive relation between peer and character complexity. Only peer complexity and literary interest were significant predictors of character complexity. No significant correlations emerged between peer complexity and story comprehension. High complexity was associated with greater inferential comprehension, interest in the actions and motivations of people within and outside the story, and comparing the story with others.

IV-10 Oral reading

SALASOO, AITA. Cognitive processing in oral and silent reading comprehension. *Reading Research Quarterly*, Winter 1986, *21*, 59-69.

Examines the differential effects of oral and silent reading on four levels of comprehension: lexical knowledge, low- and high-level propositions, and inferences. Subjects in the experiment were 16 college students. There were 12 passages read, half read orally and half silently. The passages were presented to the subjects one sentence at a time on a CRT. After reading each passage, subjects completed four true/false statements, one statement for each of the four levels of comprehension. They also rated level of confidence in their answer, and were then given feedback. Dependent variables included reading rates, error scores on the comprehension items, response latencies, and confidence ratings. Various ANOVA results found that oral reading took longer than silent and that high-level proposition questions were more difficult than low-level. There were no significant differences between oral and silent reading scores on any of the comprehension questions, and there was no significant interaction between reading mode and level of comprehension. Response latencies to the four levels of questions did differ significantly, with the oral readers responding more slowly in low- and high-level propositional questions.

MCCOY, KATHLEEN M., & PANY, DARLENE. Summary and analysis of oral reading corrective feedback research. *Reading Teacher*, February 1986, *39*, 548-554.

Summarizes research on the effects of correcting oral reading mistakes on oral reading comprehension and accuracy of word recognition. Nine studies were reviewed. The varieties of oral reading correction included word supply, word drill, sentence rereading, end of

page review, word meaning explanation, phonic analysis, and corrective cues hierarchy. Corrective feedback was associated with more accurate word recognition for disabled readers. The effects of corrective feedback on comprehension were not consistent; for disabled readers the effect varied from no effect to positive effect, and for average readers the results varied from reduced comprehension to no effect. Concludes that more research is needed in this area and that teachers must be cautious in interpreting these results.

KARLIN, ANDREA. Intonation in oral reading and reading comprehension. *Reading Horizons*, Spring 1985, *25*, 169-175.

Explores the relation between oral reading intonation and reading comprehension as determined by the cloze procedure for 54 West Indies college students. After successfully completing a word recognition screening assessment, each subject orally read two passages and completed two cloze tests. Recordings were analyzed to determine use of stress, pitch, and juncture. Correlation coefficients and multiple regression analyses between each intonation feature and reading comprehension and between the combined intonation features and reading comprehension indicated there were no significant relationships.

HARDING, LEONORA M.; BEECH, JOHN R.; & SNEDDON, WILLIAM. The changing pattern of reading errors and reading style from 5 to 11 years of age. *British Journal of Educational Psychology*, February 1985, *55*, 45-32.

Examines the patterns of reading errors over the reading age range of 5 to 11 years. A total of 140 Irish pupils were selected for the study. Subjects were balanced for gender, IQ, and social class across the seven reading age groups. Samples of oral reading were obtained as well as responses to a reading style test consisting of isolated words: regular, irregular, and nonsense. For data analysis purposes, the group was divided into three groups: 5-6 years, 7-8 years, and 9-11 years. Results revealed a change in patterns of errors over reading ages. In the early years, good readers produced reading errors which were less similar graphophonically and phonemically to the original words than poorer readers. But from a reading age of 7 years on, good readers produced reading errors which were less similar syntactically to the original words than were the poorer readers' errors. An analysis of patterns across ages found a decline in the syntactic similarity of the reading errors to the originals as the children became more advanced in reading. A similar, but less strong, pattern was noted for semantic errors. In contrast, there was a weak trend toward words becoming graphophonically and phonemically more similar to the originals as reading age increased.

PARKIN, ALAN J., & ILETT, ALISON. Context and the spelling-to-sound regularity effect in pronunciation. *Journal of Research in Reading*, February 1986, *9*, 22-30.

Examines how spelling-to-sound regularity affects reading aloud within sentences. Sixteen British university students read aloud incomplete sentences and then pronounced a target word that completed each sentence. Two levels of spelling-to-sound regularity, regular and irregular, were used for target words. Context was either highly predictable or ambiguous. Pronunciation latencies served as the dependent variable. Latencies were shorter for predictable, specific contexts. Spelling-to-sound irregularity produced longer pronunciation latencies for irregular words but only in the general, or ambiguous, context condition. When regular and irregular words were preceded by a highly predictive sentence there was no difference in latency.

MILLER, SAMUEL D., & SMITH, DONALD E.P. Differences in literal and inferential comprehension after reading orally and silently. *Journal of Educational Psychology*, June 1985, *77*, 341-348.

Asks whether there are differences in literal and inferential comprehension as a function of reading test format, oral or silent. Subjects were 94 children, grades 2-5, in six classrooms. Pupils were asked to read on passage orally and one silently at their grade level.

Passages came from the three forms of the *Analytical Reading Inventory*. Second-grade children answered two literal and three inferential questions on each passage; older pupils were asked two literal and four inferential questions on each passage. Total scores by child were ranked and divided into low (L), medium (M), or high (H) competency levels. Using a repeated measures analysis of variance, no direct effects were found attributable to test format or kinds of comprehension. However, L readers scored higher on questions following oral reading than on silent reading and also did better with inferential than with literal questions. Level M readers performed better with silent than with oral reading but showed no differences according to type of question. H readers received better scores on literal over inferential questions and read equally well in both formats. As a total group, children did better with main idea and cause-effect questions than they did with inference questions.

LESGOLD, ALAN M., & CURTIS, MARY E. Learning to read words efficiently. In Alan M. Lesgold & Charles A. Perfetti (Eds.) *Interactive Processes in Reading*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1981, 329-360.

Describes the first part of an attempt to study the development of both overall reading ability and verbal encoding in an effort to determine the relation of the two. Presents some foundations for a theory of the types of prerequisite relations that can exist between cognitive competences. Then utilizes this theoretical base for interpreting the nature of the observed positive correlation coefficient between phonological or articulatory proficiency and reading. Also discusses the initial results of a longitudinal study of beginning reading the authors now have in progress and presents some of the preliminary data from this study. The data consist of oral reading rate and errors on two cohorts of beginning readers tested over time. When grouped by ability levels, an error analysis indicated the pattern of errors across skill groups was similar: substitution errors were most common and most errors were graphemically similar to text words. As reading level increased, the proportion of errors that preserve text meaning increased.

HOROWITZ, ROSALIND, & SAMUELS, S. JAY. Reading and listening to expository text. *Journal of Reading Behavior*, 1985, *17*(3), 185-198.

Assesses the reading comprehension and listening comprehension of 20 good and 18 poor sixth-grade readers who read aloud and listened to easy (fourth/fifth readability) and hard (seventh/eighth readability) texts. Subjects' reading level was determined by teacher judgment, scores on the *Gates-MacGinitie Reading Test*, and experimenter-designed tests of speed of word recognition. To rule out decoding difficulties, subjects were screened with a list of words from each passage to be read. In addition, pupils completed a prior knowledge test, which suggested that the two groups had comparable prior knowledge for the two hard and two easy texts. After reading or listening, subjects orally retold what they had read or heard. All recalls were scored for the quantity of literal idea units produced. Fewer idea units were recalled for difficult passages than for easy passages. No differences were found for listening comprehension on either easy or hard texts. Significant differences were found in oral reading comprehension recalls for good readers with both easy and hard texts. On easy passages, differences favored listening for poor readers and reading for good readers, but there were no differences on harder passages.

KAY, JANICE, & LESSER, RUTH. The nature of phonological processing in oral reading: Evidence from surface dyslexia. *Quarterly Journal of Experimental Psychology*, February 1985, *37A*, 39-81.

Describes a case study of an adult, (PT) with acquired dyslexia, reports extensively on PT's oral reading performance, and contrasts that performance with that of a surface dyslexic patient reported in another report. PT was a 39-year-old male with a recent history of debilitating migraine headaches. Four years after the onset of the headaches, PT complained of difficulties in reading, writing and calculation. Skull X-rays and a CAT scan were both

normal. His full-scale IQ on the WAIS was 94. Performance on several tests of speech, memory, auditory comprehension, and listening vocabulary were normal. His reading age on the *Schonell Word Reading Test* was 10.9. Through a variety of oral production tasks, the size of the orthographic-phonological unit operational in PT's oral reading was determined. He appeared to rely on grapheme-phoneme correspondences. He did not evidence use of the subsyllable as an independent reading unit, as was found in the previous case study.

ARMSTRONG, STEPHEN W. The effects of material difficulty upon learning disabled children's oral reading and reading comprehension. *Learning Disability Quarterly*, Summer 1983, *6*, 339-348.

Explores the relation between two measures of reading competence (oral reading and reading comprehension) in five male learning disabled (LD) pupils, aged 8-10 years. Subjects were of normal intelligence, without severe emotional disturbance or sensory or motor impairments, attending the same LD classroom. Subjects read two readers from the Barnell-Loft series and at two different reading levels. Each day, one story from each reader was read orally, and then silently, before subjects answered five comprehension questions orally. Audiotapes of oral reading were analyzed to find words correctly read and incorrectly read per minute, percentages of correct comprehension answers, and response latencies for comprehension answers. Significant statistical relationships were found between comprehension percentages and words said correctly and incorrectly per minute for four of the five subjects. Subjects failing to comprehend materials at the more difficult level were able to comprehend the easier material.

BYRD, DIANA M., & GHOLSON, BARRY. Reading, memory, and metacognition. *Journal of Educational Psychology*, August 1985, *77*, 428-436.

Investigates the effects of reading ability (good vs. poor), operativity, and grade level (second vs. fourth) upon the use of reading strategies, knowledge about reading (metareading), memory, and metamemory. Forty second-grade pupils and 40 fourth-grade pupils were administered informal oral reading inventories, standard conservation, seriation, and classification tasks, cognitive cueing tasks, and introspective interviews on metareading and metamemory. Multivariate analyses revealed main effects of reading ability on oral reading errors, operativity upon metareading, and grade level on metareading and metamemory. A significant grade x operativity interaction effect on oral reading was also observed. Partial correlation analyses found significant but low relations among memory and reading, among several reading-metareading measures, and among memory and metamemory items.

BROWNE, ANN. Young children's attention to textual context when reading. *Reading*, April 1985, *19*, 46-50.

Measures the reading of 32 average readers ranging in age from 6.4 to 8.5 who were asked to read aloud a story containing 10 contextually appropriate polysemous target words used in their least usual sense. Oral reading miscues were recorded on these 10 target words to determine how children might be reconciling semantic problems in the text. After reading, children were asked to retell the story and to define the 10 target words. Children were also asked if they found the passage difficult to read or understand and to locate the difficulty. They were then asked why they thought they had learned to read and what books other than school books they read at school or at home. Children were able to read the story without major decoding problems and to give an average of 3.25 correct definitions on the 10 target words. Eleven children mentioned problems with reading the story. Of the 32 readers, 31 seemed to have positive attitudes toward reading. Informal responses suggest that children had limited knowledge of the purposes of reading.

IV-11 Rate of reading

CARVER, RONALD P. How good are some of the world's best readers? *Reading Research Quarterly*, Summer 1985, *20*, 389-419.

Presents an in-depth investigation of how 16 superior readers (speed readers, professionals, college students, and people who score high on tests) score in reading rate and reading comprehension. Also investigates whether speed readers have special abilities enabling them to read better than other superior readers, and whether speed readers and other superior readers have an optimum rate at which they read most efficiently. All 16 participants took the *National Reading Standards*, the *Nelson-Denny Reading Test*, and the *Advanced Raven Progressive Matrices Test*. Passages at reading levels ranging from grade 4.10 were read to determine typical reading rate. In addition, 10 passages were each presented three times at rates of 7,500, 1,500, and 300 words per minute to determine skimming scores, with multiple-choice questions following each reading. Sixty rauding tests at 7th, 8th, and 9th grade difficulty were administered, with subjects indicating whether comprehension items were or were not paraphrases of content. Subjects also read four books and completed a detail recall test and a summary test, where they wrote a summary of book contents. The total of 8½ hours of testing was given in three separate sessions. All groups read easy materials at rates between 300 and 600 wpm when comprehension was assessed. Speed readers read faster when comprehension was not measured. Speed readers wrote the best summaries of books read at 1,500 wpm, but not at 375, 6,000, or 24,000 wpm. Speed readers did not do so well as other groups on recalling important details at all four rates, relied on skimming and accepted lower comprehension that accompanies skimming. In addition, speed readers were similar to other superior readers and did not have unique abilities that might explain their high reading rates.

CARVER, RONALD P. Rauding theory predictions of amount comprehended under different purposes and speed reading conditions. *Reading Research Quarterly*, Winter 1984, *19*, 205-218.

Determines the degree to which accuracy of passage comprehension can be predicted from rauding theory under different purposes and reading rates. Subjects were 20 groups of college students (102) who were paid for research participation. Ten passages, mean standard length of 102 words, were selected from passages used in previous research studies. Rates ranging from 62.5 to 100,000 standard length words per minute were presented on 10 different motion picture films, one for each passage. Passages, rates, and presentation order were counterbalanced. Subjects had a median grade reading score of 13.5 on the *National Reading Standards* and a median reading rate score of 305 wpm on tests administered at the beginning of the study. Four experimental measures were administered: understanding judgments, missing verbs, Best Titles Test, and Sentence-Halves Test. Subjects viewed the passage and then completed the first two measures. After all passages had been shown, subjects completed the last two measures. Groups 1-10 (gist group) were told that understanding was the most important criteria for earning monetary bonuses; Groups 11-20 (detail group) were told that determining whether a verb was present or absent was most important for their bonuses. Means were recorded for each passage and for each rate. Comprehension was not substantially affected by purpose. Comprehension diminished as rate increased. The amount of comprehension at each rate was accurately predicted from rauding theory.

PEVEY, MARK E.; ALLRED, THOMAS R.; & PALYA, WILLIAM L. Effects of presentation speed on comprehension of computer-presented text. *Perceptual and Motor Skills*, February 1986, *62*, 85-86.

Studies the effect of presentation speed on the comprehension of computer-presented text. The 100 undergraduate psychology students were assigned randomly to five groups. Each subject read five passages. One group read a printed version of the text; for the other

groups, computer terminals presented text at 110, 300, 600, or 1,200 baud (11-120 characters per sec.). Five questions based on the material covered were used to assess comprehension. Presentation speed did not have a substantial effect on comprehension of text.

SOLAN, HAROLD A. Eye movement problems in achieving readers: An update. *American Journal of Optometry & Physiological Optics*, December 1985, *62*, 812-819.

Describes the eye movement characteristics of two 12th graders and seven college students, graduate students, and college graduates with average or above average reading comprehension, but slow rates of reading. These subjects had requested visual examinations presenting complaints of inability to read rapidly and efficiently. Their average performance on the vocabulary and comprehension tests of the *Iowa Silent Reading Test* were at the 78th percentile level. Their reading rate on grades 3 through 7 material ranged from 98 to 245 wpm, and averaged approximately 170 wpm on grade 4 material. Using the Eye-Trac to record eye movements, it was found that the average number of fixations per 100 words for this group was 108, with an average of 27 regressions per 100 words. Their average span of recognition was .86 words. Varying the grade level of the material read on the Eye-Trac did not significantly alter rate, regressions, or fixations. Three of the subjects were selected for training. Reports that these three subjects increased their rate of reading and span of recognition, and decreased their number of fixations and regressions.

IV-12 Other factors related to reading

HALLINAN, MAUREEN T., & SØRENSEN, AAGE B. Ability grouping and student friendships. *American Educational Research Journal*, Winter 1985, *22*, 485-499.

Examines the effects of membership in the same reading ability group on friendships for pupils in 104 reading groups of 32 classes of fourth, fifth, and sixth graders. Six times during the school year teachers provided names of group members, reported the basis of the grouping, designated the level of the group, and if the group was gifted or remedial. At the same six times, children were given a listing of their classmates and asked to circle whether each person was a best friend, friend, acquaintance, or unknown. Data were also gathered on race and sex. Three types of analyses were performed: density analysis (whether the proportion of friendship ties within an ability group increased over time), clique analysis (whether the overlap between cliques and ability group membership increased over the year), and logit analysis (whether membership in the same ability group was a predictor of friendship ties). Density of best friend choices within ability groups have a positive effect on friendship formation. Overlap between ability groups and cliques also increased over time, with the proportion of ability members not in cliques declining. Membership in the same ability group had a positive effect on the probability that a pupil would choose a group member as best friend. Children generally chose members of the same sex and race as best friends.

GETTINGER, MARIBETH. Student behaviors, teacher reinforcement, student ability, and learning. *Contemporary Educational Psychology*, October 1983, *8*, 391-402.

Examines the relations among pupil behaviors exhibited during small group instruction in mathematics, science, geography, and language usage classes; teacher reinforcement of those behaviors; pupil ability; and pupil achievement. Subjects were 98 boys. Mean CA was 9-9; average IQ was 99; and average reading standard score on the *Wide Range Achievement Test*, reading subtest, was 98.3. Content was assessed with a 50-item multiple choice test in each area. Each child was observed for one continuous 6-minute period for each of 10 consecutive days. On-task behavior and accurate responding were recorded for pupil behav-

ior; teacher behaviors were verbal reinforcement of on-task behavior, verbal reinforcement of accurate responding, and tangible reinforcers for on-task or accurate responding behavior. Also recorded were correct responses and correct responses that elicited verbal praise from teachers. Path analysis examined the effects of pupil and teacher behaviors and pupil ability on posttest scores. No differences were found for on-task behaviors, overall proportion of correct responding, verbal reinforcement of correct responding, or reinforcement rates. Coefficients among pupil behaviors and achievement ranged from .46 to .72. High rates of on-task behavior and accurate responding were associated with high rates of verbal reinforcement. Ability measures had moderate correlations with classroom behavior, and low ones with teacher behavior. Increase in proportion of questions answered correctly had a positive effect on achievement, as did verbal reinforcement of accurate responses.

KEMP, MAX. Parents as teachers of literacy: What are we learning from them? *Australian Journal of Reading*, August 1985, *8*, 135-141.

Surveys parents involved in a parent training program connected with an Australian teacher education program. A 30-item questionnaire was administered to 59 participating parents. Items assessed the parents' views of their children's development, the reasons for their children's literacy problems, past relationships between home and school, and parents' confidence in working with their children and resolving their problems. Ratings of their children's behavior in home and social settings were also assessed. In addition, interviews were conducted with one or both parents. Results were analyzed according to day attending and evening attending parents. No statistically significant differences were found, although patterns of consensus were determined. Evening parents differed from day parents in seeing time as a major hindrance to giving consistent help in the home. Results of questionnaires and interviews were used to develop a profile of typical parents whose children have learning problems, and their feelings as a result of having children with poor literacy achievement.

CORTEEN, RAYMOND S., & WILLIAMS, TANNIS MACBETH. Television and reading skills. In Tannis MacBeth Williams (Ed.) *The Impact of Television: A Natural Experiment in Three Communities*. Orlando, FL: Academic Press, Inc., 1986, 39-86.

Relates results of a natural experiment involving a nonisolated Canadian community where TV reception was not obtained until late 1973. A series of individual studies were made and reported in different chapters of the book. Three small communities were involved. One had not been receiving television but was to begin receiving CBC, the Canadian government-owned network; one control town had been receiving CBC for seven years; a second control town had been receiving CBC along with the three major American networks for 15 years. The chapter abstracted here reports the data on the influence of television on school achievement. Prior to the inception of TV in the experimental town, 217 children in grades 2, 3, and 8 in all three towns were tested on materials selected from the *Gates-McKillop Diagnostic Reading Tests*. Two years later, an additional 206 children in the same grades were tested along with 153 of the original sample who were retested in grades 4, 5, and 10. Children were individually tested with the selected items by means of a tachistoscope in order to control for time of presentation. Items presented included 20 single words, 26 phrases, and 23 nonsense words. Additionally, about six months after television was introduced, appropriate forms of the *Gates-MacGinitie Reading Achievement Tests* were administered to all children in grades 1-7 in the three towns (n = 813). Results suggested that second graders who have not had television were more advanced in reading skills than children who have regular access to television. This finding held for boys with or without IQ controlled, and for girls only after IQ was controlled. After two or four years of viewing television, the reading scores of the second graders in the experimental town were similar to those of control children. Children who watched more hours of television per week tended to be poorer readers than those watching for fewer hours, even with the effects of IQ controlled. Better readers tended to read more of all print media than did poorer readers.

SEARLS, DONALD T.; MEAD, NANCY A.; & WARD, BARBARA. The relationship of students' reading skills to TV watching, leisure time reading, and homework. *Journal of Reading*, November 1985, *29*, 158-162.

Reports data on the TV viewing habits of 9-, 13- and 17-year olds taken from the 1979-80 National Assessment of Educational Progress (NAEP). Amounts of homework and leisure time reading were compared with TV watching and reading ability. Data suggest that age is a major factor in determining how much television is watched and how watching interacts with reading skills. Beneficial effects of television decrease with age and vary with socioeconomic status and sex. Time spent watching television declines with age, as does spare time reading. Spare time reading appears to have a favorable impact on reading skills. Reading performance tends to increase as amount of time spent on homework increases.

TEMPLETON, SHANE, & MOWERY, SALLY. Readability, basal readers, and story grammar: What lies beneath the surface? *Reading World*, March 1985, *24*(3), 40-47.

Compares the difficulty of texts as assessed by a readability formula and a prediction formula based on a story grammar, and assesses whether reader recall varies with the degree of well-formedness of the organizational structure of stories. Passages selected were intact stories taken from three major basal series, with grade designations between grades two and five. Comparisons of readability formula predictions and story grammar predictions were not significantly related. Revisions of the story grammar prediction formula were made, before passages were given to nine randomly selected subjects in grades two and four. Each subject read orally and then retold the story. Analyses of retellings revealed no significant differences in recalls as a function of passage complexity. Recalls were also examined for types of inferences. More inferences not based upon story content were found for the more difficult story at the second grade level.

ROBERTS, DONALD F.; BACHEN, CHRISTINE M.; HORNBY, MELINDA C.; & HERNANDEZ-RAMOS, PEDRO. Reading and television: Predictors of reading achievement at different age levels. *Communication Research*, January 1984, *11*, 9-49.

Explores the relation between television behavior and reading achievement for children at three different stages of reading development. Subjects (159 second graders, 163 third graders, and 217 sixth graders selected for cross representation of socio-economic status, rural-urban backgrounds, and racial and ethnic mix) responded to an extensive questionnaire concerning family and home environment, television viewing, reading habits, and school behaviors. Also investigated were orientations toward television and reading for learning, for escape, for pleasure, or for default (nothing better to do), and perceived ease of learning by TV or print. Amount of television viewing and reading achievement correlated negatively. Multiple regression analyses suggested that predictor variables differ for the various ages, with environmental variables more important for younger children, and individually focused variables more important for older children. Statistical differences were found in predictor constructs for third and sixth graders, but not for second graders.

ZENKER, EDWARD R., & FREY, DIANA Z. Relaxation helps less capable students. *Journal of Reading*, January 1985, *28*, 342-344.

Investigates the effectiveness of two relaxation techniques and visual image training on the literal recall of narrative prose by 10th grade students. Techniques taught were: 1) slow, deep breathing, and 2) alternately tensing and relaxing. While students were relaxed, they were instructed to imagine concrete and then abstract objects. Mean IQ for the eight experimental group subjects on the *Otis-Lennon School Ability Test* was 84. Mean grade equivalent (GE) on the Reading Comprehension subtest of the *California Achievement Test* was 5.3. Mean IQ for the eight control group subjects was 85 and mean GE was 6.2. After 10

days of relaxation training with audiotapes, students were tested with a two-page story written at fourth grade level. Students were instructed to picture the story in their minds as they read. Ten literal level questions tested recall. The average comprehension score for the control group was 66%, while the average score for the experimental group was 74%. The difference was statistically significant.

DENDATO, KENNETH M., & DIENER, DON. Effectiveness of cognitive/relaxation therapy and study-skills training in reducing self-reported anxiety and improving the academic performance of test-anxious students. *Journal of Counseling Psychology*, April 1986, *33*, 131-135.

Examines the effects of cognitive/relaxation therapy and study skills training on test anxiety and academic performance. Forty-five undergraduates who reported high test anxiety were randomly assigned to one of four treatment groups. One group received a combination of cognitive therapy and deep muscle relaxation, a second group received study skills training, a third group received a combination of the two, and a fourth group served as a control with no treatment. Dependent measures were scores on an anxiety inventory and examination scores from a psychology course which all students were taking. Analyses of variance found the combined treatment most effective in reducing anxiety and improving academic performance. Relaxation/cognitive therapy was effective in reducing anxiety but not in improving performance. Study skills training was not effective at either reducing anxiety or improving test performance.

CHANG, KANG-TSUNG; LENZEN, THOMAS; & ANTES, JAMES. The effect of experience on reading topographic relief information: Analysis of performance and eye movements. *Cartographic Journal*, December 1985, *22*, 88-94.

Tests the effect of experience in reading topographic maps with two groups of students: graduate students and undergraduate students skilled in map reading; and undergraduates unskilled in map reading. Twenty-two subjects constituted each group. Subjects viewed 10 topographic maps for 20 seconds each. While viewing, their eye movements were recorded. Subjects answered questions about their memory for map relief information, specifically about absolute and relative height features, and their visual search procedures. The experienced group performed better than the inexperienced group, with experienced graduate students performing better than experienced undergraduates and inexperienced undergraduates. The difference between experienced and inexperienced undergraduates was not significant. Greatest differences between groups were noticed on maps with pronounced topography and distinctive relief features. Fixations for the most experienced students were of different duration and concentration, and focused on different elevations and landforms.

HEISEL, MARSEL A. Assessment of learning activity level in a group of black aged. *Adult Education Quarterly*, Fall 1985, *36*, 1-14.

Attempts to identify factors associated with high learning activity levels in 132 urban black adults, aged 60 to 94, with a mean educational level attainment of sixth grade. Subjects were also socioeconomically disadvantaged. A Learning Activity Level (LAL) scale was developed and used in an individual interview situation to assess informal, self-planned, and self-guided learning efforts. The 29-item LAL consisted of three components: 1) reading, 2) educational use of television and radio, and 3) formal and informal new learning pursuits. Data on seven independent variables considered to be of importance in determining learning activity level were collected: age, sex, number of grades completed in school, formal adult education activities engaged in, self-perceived reading proficiency, self-perceived health and life satisfaction. Multiple regression analysis results indicated that the seven independent variables accounted for over 40% of the variance in LAL scores with sex and self-perceived reading ability as the most significant predictors.

HOLZMAN, THOMAS G., & PAYNE, JR., M. CARR. Duration-syntax association in normal and poor readers. *Journal of Learning Disabilities*, December 1985, *18*, 585-587.

Investigates the relation between children's reading comprehension and rhythmic processing. The sample consisted of 58 normal and 55 poor readers at the sixth grade level. A tone pattern-phrase matching procedure was used in which subjects had to chose the written phrase, from a pair, which best went with the tone stimulus. Each phrase consisted of the same number of monosyllabic words as there were tones. One phrase of each pair had content words corresponding with temporal positions of long tones and function words with short tones. The other phrase followed a reversed pattern. After completing the task, subjects were asked to identify the two most important words in each phrase. Subjects tended to choose phrases which matched long tone durations to content words and short durations to function words, similar to adults' performance in previous studies. This pattern was more prominent in normal readers. Poor readers were significantly better at identifying word importance than the normal readers.

IV-13 Factors related to reading disability

SUMMERS, EDWARD G. The information flood in learning disabilities: A bibliometric analysis of the journal literature. *Remedial and Special Education*, January/February 1986, *7*(1), 49-60.

Reports the results of a bibliometric analysis of 2,270 journal articles on learning disabilities. Bibliometrics is the study and measure of the publication patterns of all forms of written communication and their authors. The aspect of communication studied and measured in this report was journal articles in learning disabilities published between 1968-1983. Journal articles were identified by searching ERIC's *Current Index to Journals in Education*, using the major descriptor, Learning Disabilities (LD). Features of these publications presented were 1) the number of articles published, 2) the most frequently cited journals, 3) the relative scatter of information across journals, 4) the increase in information and the temporal distribution of the journal articles, and 5) the most frequent general themes that appear in the journal literature. Among the numerous findings it was found that three journals (*Journal of Learning Disabilities*, *Academic Therapy*, and *Learning Disability Quarterly*) account for 50% of all LD journal articles; 27 journals published 77% of all LD articles; for 278 ERIC descriptor terms, each term had at least 10 and as many as 537 articles; the increase in number of articles is positively accelerated, with a cumulative frequency ranging from 3 in 1968 to 2,270 in 1983.

TANSLEY, PAULA, & PANCKHURST, JOHN. *Children with Specific Learning Difficulties: A Critical Review of Research*. Windsor, Berks., England: The NFER-Nelson Publishing Company, Ltd., 1981; and Atlantic Highlands, NJ: Humanities Press Inc.

Undertakes an evaluative review of research on children with specific learning difficulties with a focus on three areas: 1) definitions and symptoms, 2) remedial methods, and 3) incidence. The review was done under the aegis of the National Foundation for Educational Research in England and Wales. Emphasis was placed on British research but also utilized American and Scandinavian contributions. Four main chapters are included with separate ones for terminology and etiology. A glossary of terms is also presented. The terminology chapter suggests that specific reading retardation and dyslexia are essentially the same thing and proposes that the term specific learning difficulties be used. So defined it includes children with no sensory defect or overt organic damage who have a learning problem in one or

more of the areas of reading, writing, spelling, and mathematics and who are not responding to normal instruction. The etiological findings were divided into three main groups: primary or constitutional learning difficulties, secondary correlates, and reading and nonreading difficulties. The literature on incidence rates is one of confusion due to differing definitions, differing measurements, and differing estimates. Estimates tend to cluster around three levels: 20% and upwards; a middle group around 5% to 15%; and a hard core group of children with severe and specific reading difficulties, comprising about 2% to 5%. The literature on remediation found emphasizes individualizing instruction, over-learning, the importance of structure, and teaching from strengths.

BADIAN, NATHLIE A. Improving the prediction of reading for the individual child: A four-year-follow-up. *Journal of Learning Disabilities*, May 1986, *19*, 262-269.

Investigates the relation of biographical factors and screening test scores to later reading achievement. Subjects were 208 boys who were screened just prior to starting kindergarten and retested in the spring of third grade. Predictive measures included 13 subtest scores from the *Holbrook Screening Battery* and seven biographical variables obtained from parent questionnaires. The follow-up criterion measure was the Total Reading score from the *Stanford Achievement Test*. Stepwise multiple regression yielded a multiple correlation of .65. Five predictor variables (Arithmetic, Letters, Pencil Use, Copy Forms, and Information) accounted for 40% of the variance. No biographical variable correlated significantly with reading. Valid and false prediction rates were also calculated for various subgroups. By applying a further criteria the number of poor readers identified increased from 43 to 93% and the number of good readers identified increased from 91 to 98%.

BROMAN, SARAH; BIEN, ELLEN, & SHAUGHNESSY, PETER. *Low Achieving Children: The First Seven Years*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985.

Studies various characteristics of children at age seven who had been followed since gestation and who exhibited normal aptitude or intelligence but low academic achievement. The sample was drawn from a cohort of almost 35,000 children followed to age seven. Low achievers scored 90 or above on the WISC and had a grade rating more than one year below grade placement on the reading or spelling subtest of the *Wide Range Achievement Test* (WRAT). Both maturational and environmental antecedents of low achievement were investigated. About 3% of children in the original sample were low achievers with over two-thirds of those being males. An academically successful control group was selected, matched on IQ, socioeconomic status, ethnic, group, sex, and institution or study center (there were 12 study centers). Four subgroups of low achievers were examined: 1) those who were more than one year below grade placement in both spelling and reading; 2) those with reading scores in the lowest 10% of the distribution; 3) those who were identified as hyperactive low achievers; and 4) low achievers with high (105-128), medium (95-104), and low (90-94) IQ scores. Study and control/comparison groups were compared on 391 characteristics collected from examinations and interviews at regular intervals from prenatal stages on. Major findings support the conclusions that lower socioeconomic status, less maternal education, higher birth order, and larger family size are related to greater rates of academic failure. Sex differences in antecedents and correlates of low achievement were identified for both blacks and whites. Low achievement in boys was related to aspects of the caretaking environment.

MAUGHAN, BARBARA; GRAY, GRACE; & RUTTER, MICHAEL. Reading retardation and antisocial behavior: A follow-up into employment. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, September 1985, *26*, 741-758.

Explores the longitudinal effects of reading and behavior disorders in British children. Four contrasting subgroups of boys, age 10, were selected: 1) retarded readers with behavior disorders; 2) retarded readers without behavior disorders; 3) normal readers with behavior disorders; and 4) a control group showing neither problem. Initial data were col-

lected at the time of selection. The first follow-up occurred when the subjects reached age 14. At that point subjects were administered reading tests and a nonverbal intelligence test. Their teachers completed a questionnaire as well. A second follow-up took place one year after leaving school. Subjects were individually interviewed regarding school and employment history, skill level, and job satisfaction. Results showed that at age 14, just under one-third of the retarded readers were reading within the normal range. The majority of subjects with behavioral problems continued to have them. However, reading-disabled subjects were not more likely to develop behavior problems during this period. Over two-thirds of the behavior-disordered subjects left school without any formal qualifications. Reading-disabled subjects had higher rates of unemployment. Over 70% of the poor readers and 80% of the behavior-disordered had obtained only semi-skilled or unskilled jobs. However, just over 25% of retarded readers were in craft-skilled jobs. The importance of separating out the effects of associated disorders when assessing the long-term effects of learning problems was discussed.

HORN, WADE F., & PACKARD, THOMAS. Early identification of learning problems: A meta-analysis. *Journal of Educational Psychology*, October 1985, *77*, 581-590.

Conducts a meta-anaylsis and summarizes data on 58 correlational studies of early predictions of learning problems. For inclusion, a study had to 1) have reported at least one zero-order correlation between a predictor variable and a criterion variable assessing reading achievement, and 2) have included statistics from which correlation coefficients or an equivalent measure could be derived. Predictor variables were grouped into six categories: language variables, sensory variables, behavioral-emotional variables, neurological variable, IQ measures, and teacher ratings of overall performance. Five of these categories were then subcategorized and new meta-analyses performed following the original meta-analyses. Corrected mean coefficients for the various predictor variables ranged from .23 for cerebral dominance/handedness to .63 for attention/distractibility. The highest single predictors of reading achievement were attention-distractibility (mean r = .63) and internalizing (mean r = .59). Measure of gross motor skills, cerebral dominance or handedness, and ability to integrate different sensory modalities tended to be weak predictors of reading achievement.

VOGLER, GEORGE P.; DEFRIES, J.C.; & DECKER, SADIE N. Family history as an indictor of risk for reading disability. *Journal of Learning Disabilities*, August/September 1985, *18*, 419-421.

Quantifies the probability of a child's risk of developing reading disability as a function of the reading ability of the parents. Self-report questionnaires regarding reading habits, preferences, and ability were obtained from the parents of 174 reading-disabled children and 182 controls. Bayesian probability procedures were used to estimate risk. The data revealed that the probability of a parent being disabled is significantly greater if a child is reading disabled. Posterior probabilities revealed that the risk of reading disability for a child is increased when a parent reports having been disabled. For males the risk is increased by a factor of from 4 to 10, and for females the risk is 8 to 13 times higher if a parent reports having had difficulty in learning to read.

LOVETT, MAUREEN W. The search for subtypes of specific reading disability: Reflections from a cognitive perspective. In Rosemary F. Bowler (Ed.) *Annals of Dyslexia*, Vol. 34. Baltimore, Md.: The Orton Dyslexia Society, 1984, 155-178.

Reviews literature on dyslexia. Moves historically from attempts to identify a single underlying deficit to more recent efforts to define different subtypes. Demonstrates two approaches to the issue of subtyping.

RACK, JOHN P. Orthographic and phonetic coding in developmental dyslexia. *British Journal of Psychology*. August 1985, *76*, 325-340.

Investigates the nature of memory codes of dyslexic readers and controls matched on age and gender, but not IQ. Subjects were asked to make rhyme judgments about pairs of words and subsequently one word from each pair, the cue, was presented to cue the recall of the other member, the target. Pairs were related phonologically and orthographically (farm-harm), phonologically only (farm-calm), orthographically only (wash-cash), or they were unrelated (farm-sand). Subjects in Experiment 1 were 16 dyslexics and 16 normal readers. Half these subjects completed the memory task with visual stimuli, half with stimuli read aloud by the experimenter. The dependent variable was number of errors in recalling the target. Subjects in Experiment 2, eight dyslexics and eight normal readers, were presented only auditory stimuli. The dependent variables were number of errors and reaction times to response. Overall memory performance did not differ significantly between the two groups. Dyslexics recalled significantly more targets to nonrhyming cues; however, they were significantly slower and subject to greater orthographic effect. Dyslexics made more use of an orthographic code in both presentation modes, and less use of a phonetic code in the visual but not the auditory condition.

TREIMAN, REBECCA, & HIRSH-PASEK, KATHY. Are there qualitative differences in reading behavior between dyslexics and normal readers? *Memory & Cognition*, July 1985, *13*, 357-364.

Compares the ability of dyslexics and normal readers to read 96 words divided into three categories: words with regular spelling to sound relations (e.g., bone); words spelled with the same ending or beginning letters as the regular word, but pronounced exceptionally and having a higher average frequency than the regular words (e.g., done); and nonsense words still conforming to the same spelling pattern (e.g., yone). Subjects included 37 male dyslexics with an average age of 11-9. Dyslexia was defined as normal intellectual ability on the WISC-R, and a reading quotient below .85 using the *Gilmore Oral Reading Test* and the *Woodcock Reading mastery Test* as measures of reading. The 37 control subjects were younger (average age of 8-6), normal readers matched to the dyslexics on the word-identification subtest of the Woodcock. The task of the subjects was to read each of the 96 words as they were presented in isolation. The two groups did not differ in their ability to read regular, exception, or nonsense words. Also the intercorrelations of the performance on these three word reading lists were high, ranging from .73 to .94. Concludes that the levels of performance of the two groups was similar and, therefore, that dyslexics do not have a specific deficit in the use of spelling-to-sound rules. Argues that dyslexics are simply delayed in the development of these rules.

VALTIN, RENATE. German studies of dyslexia: Implications for education. *Journal of Research in Reading*, September 1984, *7*, 79-102.

Reviews more than 60 German research studies on dyslexia and the implications of those studies for educational practice. Classifies the studies into one of two major categories: those with implicit, and those with explicit educational value. The studies with implicit educational value are further divided into four categories: cause oriented, deficit oriented, symptom oriented, and process oriented. The author also discusses the strengths and weaknesses of the goals and methods of these four categories. Concludes that these studies generally lack educational relevance because they lack a theory of the reading process and are correlational. Those studies with explicit educational relevance were classified by the system presented in Scheerer-Neumann's 1979 book. The two major categories of this system are psychological interventions and specific reading and spelling programs. States that those studies that contain the most explicit educational implications are training studies with an experimental design that assesses the utility of specific remedial procedures. After summarizing these latter studies, the author outlines recommendations for remedial instruction and future research.

PRIOR, MARGOT, & MCCORRISTON, MARY. Surface dyslexia: A regression effect? *Brain and Language*, May 1985, *25*, 52-71.

Reports the results of measures of isolated word reading with normal and developmental dyslexics. Also reports data from three acquired surface dyslexics. Subjects were asked to read words spelled with regular grapheme-to-phoneme correspondences, irregular words, words with vowel digraphs, words with silent e, nonwords and homophones. Between 20 and 85 subjects participated in each of the word reading tasks. One case study of a 30-year-old acquired dyslexic was also discussed. Dyslexics' performance on the word-reading data was interpreted by the authors as similar to that of normal readers early in the developmental reading process. Argues that the data do not support the claims of those who maintain that surface dyslexia is a pathological syndrome.

JONES, GREGORY V. Deep dyslexia, imageability, and ease of predication. *Brain and Language*, January 1985, *24*, 1-19.

Postulates that the ease-of-predication concept is useful, especially as a means of explaining aspects of the reading of deep dyslexics. Two studies were reported, both with British university students. In the first, 30 students were asked to rate 125 nouns for ease of predication or ease of putting words into simple factual statements. Words were rated on a seven-point scale, and means for each noun are presented. Scores were then compared with imageability scores reported in another study, and it was noted that the two are quite similar. Experiment 2 utilized 14 students who were asked to rate five subsets of 20 words each for ease of predication. Subsets were high-imagery nouns, low-imagery nouns, adjectives, verbs, and function words. Ease of predication scores for the different syntactic classes varied in a manner similar to the ease of reading the words for deep dyslexics. Function words and particularly personal pronouns yielded the highest ease-of-predication scores.

BIGSBY, PAMELA. The nature of reversible letter confusions in dyslexic and normal readers: Misperception or mislabelling? *British Journal of Educational Psychology*, November 1985, *55*, 264-272.

Compares the processing of reversible letters by dyslexic children with both chronological age and reading age control groups. Ten subjects, ranging in age from 5 to 11 years, were selected for each group. All dyslexic children had a Reading Age at least 1.5 years below chronological age, evidenced no gross behavioral problems or organic disorders, and had a performance or verbal IQ on the WISC that was above 90. Subjects were presented with letter pairs and asked to distinguish whether they were the same or different. Name different and physically different letter pairs were used. Experimental stimuli were manipulated so as to determine whether mistakes made by dyslexic children lay within the visual code, the name code, or both. Reaction time and errors served as the dependent variables. Significant differences were found among the three groups in reaction time, with chronological age controls responding the fastest. Significant effects were also found for letter types (same case > mixed case) and for type of response (having subjects respond with "different" required a greater amount of processing than responding with "same"). Reversible letter confusions were errors of labeling rather than perception. Dyslexics differed from same age normals not in their perception of reversible letters but in their processing of them, within the name code.

SIEGEL, LINDA S. Deep dyslexia in childhood? *Brain and Language*, September 1985, *26*, 16-27.

Examines the word recognition errors of six reading disabled pupils. Subjects were seven- and eight-year olds with average intelligence who had been clinically identified as having reading difficulties. They were asked to read sets of words and nonwords in isolation. Error patterns were classified as semantic, pronoun, verb, contiguous, and function. Error patterns were compared to those of average beginning readers and other dyslexics and found

to be significantly different. The pattern of errors made by the six subjects were characterized as deep dyslexic. That is, in many cases the errors were semantic substitutions without being visually similar to the target words.

WOLFF, P.H.; COHEN, D.; & DRAKE, C. Impaired motor timing control in specific reading retardation. *Neuropsychologia*, 1984, *22*(5), 587-600.

Compares retarded readers and normal controls for motor coordination in unimanual and bimanual sequencing tasks. Subjects were 20 retarded readers attending a private school. All subjects had WISC verbal and performance IQ scores above 90 and full-scale scores above 100 and were reading at least two years below grade level on the *Gray Oral Reading Test*. Their average age was 12.2. Control subjects were selected from a different private school, but that school's policy did not allow the intelligence testing of its students. Finger tapping was assessed by requiring subjects to tap out a beat, synchronously, either with the one hand (unimanual) or alternating hands (bimanual) or, asynchronously, by one hand tapping every beat and the other hand tapping every-other beat. Motor speech was tested by instructing subjects to reproduce single syllables and syllable sequences as quickly as possible or in beat to a metronome. Retarded readers were significantly slower on all measures of synchronous tapping. On all measures of asynchronous tapping, retarded readers performed at significantly lower levels than controls; however, these analyses did not covary on synchronous tapping. Retarded readers were also significantly slower in all measures of speech rate. Concludes that these findings, in conjunction with those of other published reports, indicate that impaired interlimb coordination is a stable finding in male retarded readers and that such deficits may be one behavioral expression of a more general impairment that also impinges upon motor speech and expressive language.

ACKERMAN, PEGGY T.; ANHALT, JEAN M.; DYKMAN, ROSCOE A., & HOLCOMB, PHILLIP J. Effortful processing deficits in children with reading and/or attention disorders. *Brain and Cognition*, January 1986, *5*, 22-40.

Compares the effortful processing abilities of normal and learning disabled pupils. Four groups of male subjects (ages 8 to 12) were used: 1) 24 normal achieving pupils; 2) 21 classified as having attention deficit disorder without hyperactivity and without reading disability; 3) 24 with attention deficit disorder and hyperactivity but not reading disability; and 4) 24 having developmental reading disorders but not hyperactivity. Background information was collected from teachers and parents, visual and hearing screening tests were given, and a developmental neurological exam was performed. Each subject was individually administered semantic and acoustic encoding tasks, high- and low-imagery word learning tasks, a memory of printed words test, rapid addition and subtraction tests via CRT, and paper and pencil arithmetic tests. No evidence was found that differentiated the two attention deficit disorder groups on any of the measures under study. The reading disabled subjects differed from the other groups on a memory task involving acoustic and semantic associations. All three of the experimental groups differed from controls in memory for low-imagery words and computational efficiency. A stepwise regression analysis to predict reading grade level showed intelligence and effortful task variables accounted for the largest share of the variance.

ORMROD, JEANNE ELLIS, & LEWIS, MARK A. Comparison of memory skills in learning disabled, low-reading, and nondisabled adolescents. *Perceptual and Motor Skills*, August 1985, *61*, 191-195.

Compares performance on nine tests involving visual and auditory memory of three groups of high school subjects: 10 learning disabled, 15 low readers, and 31 nondisabled readers. The average age of the subjects was 17. The nine tests administered assessed auditory and visual digit span, memory for visually presented related words and sentences, mem-

ory for auditorially presented sentences and directions, memory for pictures, and memory for auditorially presented paired associates and unrelated words. The tests were constructed by the first author, and no reliability or validity data were reported. Learning disabled students performed significantly lower than low readers on six tests: visual memory of unrelated words, related words and related pictures, visual digit span, and two measures of auditory paired associates memory. The three groups did not differ significantly on only one of the tests: memory for visually presented unrelated pictures. Concludes that those tasks that differentiate learning disabled and low reading students in this study were generally visual tasks.

ACKERMAN, PEGGY T.; ANHALT, JEAN M.; & DYKMAN, ROSCOE A. Arithmetic automatization failure in children with attention and reading disorders: Associations and sequela. *Journal of Learning Disabilities*, April 1986, *19*, 222-232.

Compares the computational efficiency of children with Developmental Reading Disorders, Attention Deficit Disorders, and a normal control group. Subjects ranged in age from 8 to 12 years. All subjects were given a large battery of tests to assess automatic versus effortful mental processing. Teacher ratings were also collected. ANOVA and ANCOVAs were done for accuracy and response latency measures. Controls scored significantly higher in speed and accuracy. Follow-up testing of the subjects at age 14 indicated that arithmetic problems persisted. Further, children diagnosed as Reading Disabled, later exhibited deficiencies in arithmetic, despite having average scores in the primary grades. Arithmetic disability subtypes were proposed.

STAHL, STEVEN A., & ERICKSON, LAWRENCE G. The performance of third grade learning disabled boys on tasks at different levels of language: A model-based exploration. *Journal of Learning Disabilities*, May 1986, *19*, 285-290.

Compares the performance of learning disabled and normally achieving pupils on a variety of language tasks. Subjects were 12 learning disabled third graders, 15 normally achieving third graders, and 11 normally achieving first graders. All subjects were administered a free story telling task, story recall tasks, a linguistic structures repetition test, rapid naming tasks, an orthographic regularity test, and the Spache *Diagnostic Reading Scales*. Normally achieving third graders scored significantly higher than their learning disabled peers on nearly all measures. However, no significant differences were found between the learning disabled third graders and the first graders on the language measures. Multiple regression modelling procedures were used to test four models (rule abstraction, language-in-general, speed of processing, and decoding) that are often used to account for the language differences of learning disabled children. The rule abstraction model appeared to be best able to account for the differences between the two groups of third graders.

MORICE, RODNEY, & SLAGHUIS, WALTER. Language performance and reading ability at 8 years of age. *Applied Psycholinguistics*, June 1985, *6*, 141-160.

Compares the language performance of good, average, and poor readers. A sample of 54 Australian children was systematically selected when they entered school and then monitored for two years. The pupils were categorized as good, average, or poor readers. Subjects were administered a standardized reading test and a language comprehension test. Language production was assessed through free speech samples which were subjected to detailed grammatical analysis. The data for language comprehension revealed significant differences among the three groups upon entering school. Two years later, a significant difference existed only between poor and good readers. Results for language production also yielded significant differences among the three groups. Individual linguistic profiles of good and poor readers were compared to identify specific differences. A large majority of the sample was reassessed on the reading test one year later. Significant differences were still found between the impaired and normal groups. However, the language comprehension-impaired group had shown greater deterioration in reading and paralleled that of the group that was both comprehension- and production-impaired.

SWANSON, H. LEE, & OBRZUT, JOHN E. Learning disabled readers' recall as a function of distinctive encoding, hemisphere processing and selective attention. *Journal of Learning Disabilities*, August/September 1985, *18*, 409-418.

Compares the information processing abilities of learning disabled and nondisabled students. Subjects were 24 males (12 learning disabled and 12 nondisabled) matched on CA and IQ. Hemispheric processing was examined using a dichotic listening recall task. Semantic, phonemic, and structural orienting instructions were used. After listening to monosyllabic word pairs, also structured semantically, phonemically, and structurally, subjects were asked to free recall the words. Dependent measures were degree of lateralization, free recall, clustering, and selective attention. Results found that nondisabled readers recalled significantly more words in each category and orienting instructions produced significantly better recall than nonorienting instructions. Significant interactions suggested that disabled readers did not benefit from orienting instructions as much as nondisabled readers. Group differences were attributed to word knowledge rather than differences in hemispheric capacity or selective attention.

PERFETTI, CHARLES A. Continuities in reading acquisition, reading skill, and reading disability. *Remedial and Special Education*, January/February 1986, *7*(1), 11-21.

Presents a position paper which highlights some of the essential characteristics of reading and reading acquisition and suggests implications for instruction and remediation. The paper is organized into three main sections. The first part summarizes knowledge about the acquisition of basic reading skill. Section two discusses skilled reading and variations in reading skill among older children and adults. The final section addresses some of the implications of observations made in the first two sections for instruction and disability. It is suggested that reading ability-disability may be viewed along a coding skill continuum.

HUNT, R. REED, & BADAWI, ISIS. Further evidence on coding in reading-disabled children. *Bulletin of the Psychonomic Society*, May 1985, *23*, 223-226.

Explores encoding differences between normal and disabled readers. Subjects were 20 normal and 20 reading-disabled third graders who were comparable in age and IQ. A release-from-proactive-inhibition task was used in which three dimensions of similarity were manipulated: semantic, visual, and phonetic. Findings showed a significant interaction between reading ability and type of similarity. Poor readers had significantly greater difficulty on visually similar words. Overall, the results found that reading disabled pupils were influenced by phonetic similarity and semantic similarity in much the same way as were normal readers. However, visual similarity had a greater negative effect on disabled readers.

GOUGH, PHILLIP B., & TUNMER, WILLIAM E. Decoding, reading, and reading disability. *Remedial and Special Education*, January/February 1986, *7*(1), 6-10.

Proposes a model of reading which suggests that reading equals the product of decoding and comprehension ($R = D \times C$). Studies to support the model are cited. Using this model, the authors suggest three types of reading disability: dyslexia, an inability to decode; hyperlexia, an inability to comprehend; and garden variety reading disability, an inability to decode or comprehend.

CALTAGIRONE, PAUL; CARMEAN, STEPHEN; & LAMB, GEORGE. Chunking differences associated with reading skill. *Psychological Reports*, February 1985, *56*, 107-110.

Assesses two groups of 10 third-grade children who were identified as most skilled and least skilled readers by teachers and verified by scores on the *Spache Diagnostic Reading Scales*. Subjects were matched on chronological age, intelligence (score on *Cognitive Abilities Test*), auditory sequential memory (Digit Span, WISC-R), and decoding fluency before

they were tested for retention of sequentially presented words. Stimuli were three simple declarative sentences and one randomly ordered word string created from words selected from primer and preprimer Dolch Sight words, the *Classroom Reading Inventory*, and the basal primer. Words were presented one word at a time at 4 sec. intervals. After all words were presented, subjects told the words they could remember. No significant group differences were found when recalling the random word string. Significant differences were found when the words were chunked, with differences significantly greater for the most skilled readers.

MANIS, FRANKLIN R. Acquisition of word identification skills in normal and disabled readers. *Journal of Educational Psychology*, February 1985, *77*, 78-90.

Compares the acquisition of word identification skills in normal and disabled readers. Subjects were 20 fifth- and sixth-grade pupils, 10 normal readers and 10 disabled readers. All subjects participated in four training/testing sessions. Stimuli were 24 words divided into four categories: 1) control words of high-frequency; and low-frequency words that were 2) low-complexity regular, 3) high-complexity regular, and 4) irregular. Word-naming accuracy and latency were dependent measures. Separate analyses were conducted for each experimental session. Results revealed that normal readers were more accurate overall than disabled readers. A significant word type effect was found in that subjects named fewer high-complexity regular and irregular words correctly than low-complexity regular and control words. Differential effects of letter-sound regularity and complexity on performance were noted with normal readers equally accurate on regular and irregular words but disabled readers making significantly more errors on irregular than regular words. Latency measures found that disabled readers were slower at word naming than normal readers in all conditions. The effects of word length on latency were more pronounced for disabled readers.

BREEN, MICHAEL J. Cognitive patterns of learning disability subtypes as measured by the Woodcock-Johson Psycho-Educational Battery. *Journal of Learning Disabilities*, February 1986, *19*, 86-90.

Ascertains whether learning disabled subjects who exhibit varying patterns of academic ability exhibit unique patterns of cognitive functioning. Ninety learning disabled students, grades two through five, were placed in three groups on the basis of their Woodcock-Johnson scores: 1) those with higher math than reading skills; 2) those with higher reading than math skills; and 3) those with equally low math/reading skills. Data from the cognitive subtests and derived standard scores from the four cognitive clusters were subjected to one-way analysis of variance, multiple regression, and discriminant function procedures. Significant differences were found for all but the Spatial Relations, Blending, Visual-Matching, and Numbers Reversed subtests. Generally scores for Groups 1 and 2 were comparable, although Group 1 subjects obtained higher scores. The ordering of subtests most contributing to the Full Scale Index in the stepwise multiple regression analyses differed across subjects, with Memory for Sentences a major contributing factor across groups. Stepwise discriminant function analysis suggested that 64% of the learning disabled subjects were correctly classified by subgroup, but overlap between subgroups occurred.

UNDERWOOD, N. RODERICK, & ZOLA, DAVID. The span of letter recognition of good and poor readers. *Reading Research Quarterly*, Winter 1986, *21*, 16-19.

Examines the eye movements of good readers and poor readers in order to determine the region of text from which letter information is used during a fixation. Subjects were all fifth graders, eight good readers reading above grade 5.5, and eight poor readers reading below grade 4.5. Each subject read 15 passages written at a third grade readability level. The passages were presented one line at a time on a CRT. On selected fixations during reading, letters in certain regions of the display were replaced by other letters, thus providing erroneous text in specified regions. There were four experimental letter replacement conditions:

left-2, all letters more than two to the left of the fixated letter were replaced; right-3, right-5, and right-7, all letters more than 3, 5, and 7 spaces, respectively, to the right of fixation were replaced. There was also a control condition in which no letters were replaced. Dependent variables were constructed from the eye movement data. Data were analyzed by a three-factor ANOVA. The factors were condition, reading ability, and subjects. Both good and poor readers utilized letter information from two letters to the left of the center of the fixation through approximately six or seven letters to the right. Good readers did have significantly shorter fixation durations than poor readers, and the saccades of the poor readers were significantly shorter than the saccades of good readers.

VELLUTINO, FRANK R., & SCANLON, DONNA M. Linguistic coding and metalinguistic awareness: Their relationship to verbal memory and code acquisition in poor and normal readers. In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write*. Portsmouth, NH: Heinemann Educational Books, Inc., 1986, 115-141.

Defines and provides documentation for the hypothesized relation between linguistic coding and reading disability. Stressed is research evaluating differences between disabled and normal readers in their ability to use language as a coding device. One three-phase study by the authors is presented in which they investigate the effectiveness of training in metalinguistic awareness on the processing of spoken and printed words. Poor and normal readers at second- and sixth-grade level were assigned randomly to one of five treatment conditions: 1) phonemic segmentation training and response acquisition condition, 2) phonemic segmentation only, 3) response acquisition only, and 4 and 5) two control conditions. Poor readers performed significantly below normal readers on: 1) both pre- and postexperimental tests of phonemic segmentation ability, 2) free recall and picture-syllable subtests, and 3) both the training and transfer components of code acquisition. The magnitude of the differences tended to be greater at grade two than at grade six. Phonemic segmentation training had no effect on free recall and picture-syllable learning in either good or poor readers. Segmentation training did positively effect code acquisition and transfer training in both groups. Segmentation training had a positive effect on phonemic segmentation ability. Response training had no substantial effect on performance on segmentation.

BEDWELL, CHARLES H., & GRANT, RON. Improvement of reading age with treatment of anomalies of ocular control. *Remedial Education*, August 1985, *20*, 116-122.

Reports a study of 24 English children referred to a vision specialist for reading problems suspected as being of a visual nature. Subjects, screened on a battery of reading, language, spelling, intelligence, and binocular stability and vision tests, were given visual and ocular treatment. Two years later, these children were reassessed by the remedial instructor who had referred them. Those receiving visual and ocular treatment had reading scores that improved by an average of 3.2 years, whereas a control group averaged a gain of 1.2 years. Changes in self-confidence and work habits were noticed in some of the subjects. An individual case of a 16 year-old girl who had vision training exercises as well as prescription glasses to alleviate her visual and ocular problems is included.

RAYNER, KEITH. The role of eye movements in learning to read and reading disability. *Remedial and Special Education*, November/December 1985, *6*(6), 53-60.

Reviews research on the role of eye movements in learning to read and reading disability. Topics discussed are eye movements in skilled readers and in beginning readers, developmental changes in eye movements, the perceptual span in reading, and the role of eye movements in reading disability. Also reports, informally, some recent data collected in the author's laboratory. It was found that severely limiting the information available to the right of

foveal vision does inhibit the reading rate of both young beginning and mature readers. Concludes from these data that beginning readers take in only a little less than skilled readers on each fixation, but that it takes them longer to process that information; hence longer fixation times and longer reading rates.

PAVLIDIS, GEORGE TH. Eye movement differences between dyslexics, normal, and retarded readers while sequentially fixating digits. *American Journal of Optometry & Physiological Optics*, December 1985, *62*, 820-832.

Compares the eye movements of dyslexic, normal, and retarded readers on a nonreading task which simulated the sequential motor components of the reading process. Subjects consisted of 13 dyslexics, 10 normal readers, and 16 retarded readers, ranging in age from 7 to 13 years. They were selected and classified on the basis of quantifiable criteria and matched on CA, IQ, reading age, visual and auditory acuity, and several environmental factors. The eye movements of each subject were tested and recorded individually by having them sequentially fixate on seven equidistantly spaced digits, both left to right and right to left. Results of an analysis of variance found significant differences among the groups, with dyslexics making significantly more eye movements. Dyslexics also made significantly more regressions than the other two groups. Follow-up testing on reading tasks produced similar results. Overall results suggest that dyslexic' erratic eye movements are not just a reflection of their reading problems.

LUEGER, ROBERT J.; ALBOTT, WILLIAM L.; HILGENDORF, WILLIAM A.; & GILL KENNETH J. Neuropsychological and academic achievement correlates of abnormal WISC-R verbal-performance discrepancies. *Journal of Clinical Psychology*, November 1985, *41*, 801-805.

Examines the neuropsychological and academic achievement correlates of statistically abnormal discrepancies between Verbal Intelligence Quotient (VIQ) and Performance Intelligence Quotient (PIQ) on the WISC-R. Discrepancies for which verbal skills are less than performance skills have been used to identify learning disabilities and to predict recidivism in adolescents. However, the researchers contend that previous research has failed to use discrepancies that are both reliable and statistically abnormal (about twice the size of a reliable discrepancy at the same confidence levels). A sample of 53 Causcasian patients in a psychiatric center, ranging in ages from 9 to 15 years, were grouped on the basis of VIQs and PIQs. The Abnormal Group (n = 9) had a VIQ statistically at least 24 points less than their PIQ; the Reliable Only Group (n = 21) had a VIQ that was between 12 and 24 points less than their PIQ; and the No Discrepancy Group (n = 23) had PIQs and VIQs that did not differ reliably in either direction. The three groups did not otherwise differ in age, sex, or diagnosis. Seventeen neuropsychological tests and three academic achievement subtests of the *Wide Range Achievement Test* were administered to each child. Separate between-subject multivariate analyses of covariance were performed for the neuropsychological and academic achievement variables. Of 17 neuropsychological measures, only Aphasia Screening Test errors were associated with VIQ, with the Abnormal group differing significantly from the No Discrepancy Group. All academic achievement measures (reading, spelling, and arithmetic) were associated with abnormal VIQ< PIQ discrepancies. Group comparisons that used t-tests revealed that the Abnormal Group differed significantly from the No Discrepancy Group on the measure of Reading. The researchers contend that statistically abnormal VIQ< PIQ discrepancies reflect specific aphasic deficits rather than generalized neuropsychological dysfunction and that academic achievement deficiencies of a general nature ensue.

BADDELEY, ALAN. Reading and working memory. *Visible Language*, Autumn 1984, *18*, 311-322.

Begins by outlining a concept of short-term memory (STM) as a set of three interrelated subsystems. Particular reference is made to one of these subsystems, the articulatory loop. The author then refers to research on the possible involvement of the articulatory loop in adult reading in connection with the effects of phonological similarity within the material to be read and the effects of articulatory suppression. Previous research by the author on written and spoken puns is cited. Data are presented on three groups of boys (20 per group) who were tested for memory span performance. One group was from a school for dyslexics, one had the same chronological age (about 14) but were from a normal school, and the third group was younger but matched with dyslexics for reading age. Memory span was assessed for visually presented digit sequences, both with and without articulatory suppression and auditory span for phonologically similar and dissimilar words and for long and short words. Overall memory span of dyslexics was impaired, although they showed as clear an effect of articulatory suppression and phonological similarity as did either of the other groups.

OLSON, MARY W. Text type and reader ability: The effects on paraphrase and text-based inference questions. *Journal of Reading Behavior*, 1985, *17*(3), 199-214.

Compares the performance of 27 good and 26 poor third-grade readers as they read two narrative stories and two expository passages, and answered text based inference questions categorized as informational or logical inference. Questions were also asked that paraphrased verbatim information. Subjects were screened to be similar on decoding accuracy and language comprehension, but different on reading comprehension. Dependent measures were researcher-designed questions and times for reading each of the four texts. Text based inference questions were more difficult to answer than informational inference questions or paraphrase questions, but differences were for narratives, not for expository passages. Paraphrase questions and informational inference questions were equally difficult for both types of text. Expository passages were harder than narrative stories. Good readers read texts more rapidly than poor readers and answered significantly more text based inference questions and paraphrase questions than did poorer readers.

ZABRUCKY, KAREN; MOORE, DEWAYNE; & RATNER, HILARY HORN. Comprehension monitoring in good and poor readers: Evidence from verbal and performance measures. *Reading Psychology*, 1985, *6*(3-4), 241-250.

Examines 40 second grade good and poor readers as they monitored their comprehension of inconsistent text. Subjects, classified by reading ability on the *SRA Achievement Test*, read four stories and completed three comprehension monitoring measures. For the first measure, a context sentence varied so that its relationship with a later target sentence was either congruent or incongruent. Distance between context sentence and target sentence varied to be either adjacent (close) or nonadjacent (far). Subjects were to identify the stories containing sentences that said the opposite of earlier occurring sentences, to underline the sentence, and to draw an arrow to the earlier sentence it contradicted. For the second and third measure, they also indicated how hard the story was to understand and if they like the story. Good readers' verbal rating of passage comprehensibility and liking was highly related to their actual error detection performance. Differences were found between readers' correct error detection and passage comprehensibility and liking ratings in the different text conditions of Far and Close.

WILKINSON, IAN, & Bain, JOHN. Story comprehension and recall in poor readers: Everyone a *schemer? Australian Journal of Reading*, August 1984, 7, 147-157.

Explores the comprehension of eight-year-old good and poor readers to determine if problems of poor readers are related to inadequately developed story schemata or to their inability to use the schemata they have. Poor readers (n = 60) were children scoring between the 10th and 40th percentiles on the *Southgate Word Selection Test*, a *Sentence Completion Test*, and teacher ratings of reading ability. Good readers (20 children) were the top 10% of the distribution. Poor readers were subclassified into five groups on vocabulary knowledge, speed of reading, sentence level and passage level comprehension scores from a cloze test, and scores from three *ITPA* subtests: Auditory Association, Grammatic Closure, and Sound Blending. Classifications formed were: Subgroup 1) poor semantic knowledge; Subgroup 2) word-bound/phonic; Subgroup 3) better passage comprehension readers; Subgroup 4) poor sentence comprehension; and Subgroup 5) poor written language comprehension. Three stories were read to each child. After an intervening task, the child retold each story. Recalls were transcribed and coded for the number of recalled statements within the story grammar categories. Good readers recalled significantly more than poor readers, with children in subgroups 1 and 4 having the lowest recall. Subgroups differed from the good readers in the amount and type of information recalled.

NODINE, BARBARA F.; BARENBAUM, EDNA; & NEWCOMER, PHYLLIS. Story composition by learning disabled, reading disabled, and normal children. *Learning Disability Quarterly*, Summer 1985, *8*, 167-179.

Compares the story composition of learning disabled, reading disabled, and normal children. Subjects were three groups of 11-year-olds (learning disabled, reading disabled, and normal) from low socioeconomic families matched for socioeconomic status, age, and race. Writing samples were collected using the *Diagnostic Achievement Battery*. Compositions were evaluated using four criteria: 1) writing categories, or the extent to which a writer has succeeded in composing a story; 2) fluency, or capacity to generate words and phrases; and 3) cohesion. Analyses found that groups differed significantly in their ability to produce writing that could be classified as story. Composition of story proved most difficult for learning disabled students. Subjects who produced stories tended to have significantly higher IQ's. Significant differences among groups were also found in the total number of words produced, with normal subjects producing the greater number. Fluency measures were not found to be significantly correlated with IQ. Although no significant differences among groups were found for cohesion, learning disabled students tended to have more cohesion problems in their compositions.

FINUCCI, JOAN M.; WHITEHOUSE, CATHERINE C.; ISAACS, SARAH D.; & CHILDS, BARTON. Derivation and validation of a quantitative definition of specific reading disability for adults. *Developmental Medicine & Child Neurology*, April 1984, *26*, 143-153.

Attempts to derive and validate an index of dyslexia or specific reading disability (SRD). Sampled were 154 adult relatives of 66 SRD children and 90 adults matched for age, sex, educational level, and IQ. All adults were administered the WAIS, the *Gray Oral Reading Test*, and the spelling subtest of the *Wide Range Achievement Test* (WRAT), Level II. Most of the subjects were also given the Speed and Accuracy subtest and the Comprehension subtest of the *Gates-MacGinitie Reading Tests*, Survey F. Self-reports of school and reading history, spelling ability, and reading habits and attitudes were also collected. The two groups showed significant differences on the Gray Oral and WRAT scores. Multiple regression procedures were used for prediction of reading and spelling scores. An index was then derived for each person, expressing actual scores relative to predicted scores.

JOHNSTON, PETER. Understanding reading disability: A case study approach. *Harvard Educational Review*, May 1985, *55*, 153-177.

Conducts case studies of three adult male disabled readers. The three subjects were age 45, 26, and 43, and their reading levels according to the *Analytical Reading Inventory* were second grade, third grade, and early kindergarten. Two of the men had quit school at the end of eighth grade, one in eleventh grade. Intelligence was not formally assessed, but their occupational levels indicated normal intelligence. Each subject participated in eight one- to two-hour sessions that involved interactive assessment, spontaneous and elicited introspection and retrospection, elicited think-aloud reports, and oral reading. Presents and discusses the data within the general categories of problems in the conception of reading, strategies used in reading, anxieties, attributions, and goals and motivations. Concludes that much of the past research on reading disability has tended to dwell on minutiae, without considering the psychological or social contexts of the reading disability. Suggests that in lieu of continuing to research neurological and processing deficit models, it is necessary to consider more seriously explanations that stress combinations of anxiety, attributions, maladaptive strategies, inaccurate or nonexisting conceptualizations of the reading process, and motivational factors.

BRAUND, DIANE. Teacher-pupil relationships in adult literacy tuition. *British Journal of Sociology of Education*, 1985, *6*(2), 185-207.

Uses standardized interview techniques in order to describe what it is like to be a participant in one-to-one teacher-student relation in adult literacy training. The 26 pairs of teachers and students were a given sample, designated by various organizers of adult literacy programs in Great Britain. The variations in teachers and students were such that the researcher would not describe either group in average terms. The interviews were designed to gain perspective on the roles, goals, tasks and relations established within each dyad. There was a great deal of improvisation and negotiation in the relations, but a discernible framework for the meetings was found. The study traces the stage-by-stage evolution of tutor-student relations during which individual interpretations of the situation are combined through negotiation, and result in a tailor-made working concensus within each pair. Finds that the tutor-tutee relation is in a state of continual change until it reaches what the author calls the settled relationship.

READ, CHARLES, & RUYTER, LYDA. Reading and spelling skills in adults of low literacy. *Remedial and Special Education*, November/December 1985, *6*(6), 43-52.

Analyzes certain reading and spelling skills of 50 men of low literacy and compares their performance to the performance of 15 good readers and 15 poor readers as reported in a previous publication. The 50 men were prisoners admitted to the Wisconsin Correctional System in 1984. These subjects were selected from a pool of 55 men on the basis of less than fifth grade reading ability on the *Stanford Achievement Test*, not being mentally retarded, and native speakers of English. All men were administered a battery of tests, mostly unpublished assessments of reading and spelling strategies, decoding skills, and ability to judge the sound similarities of words. The published test was the WAIS-R, selected subtests. The authors conclude that, compared with children reading at approximately the same grade level, the low-literate adults performed better on some tasks, but generally much more poorly on those tasks requiring a knowledge of sound-spelling correspondences. Further, the men were generally limited in segmentation and decoding skills.

SLAGHUIS, W.L., & LOVEGROVE, W.J. Spatial-frequency-dependent visible persistence and specific reading disability. *Brain and Cognition*, April 1985, *4*, 219-240.

Reports four experiments that investigate the role of spatial frequency, stimulus duration, and contrast level on visible persistence in normal and disabled readers. Visible persistence is defined as any continued visible response to a stimulus after stimulus offset that is

phenomenally indistinguishable from that occurring during the actual presence of the stimulus. The 10 to 12 subjects for the four experiments were selected from a pool of 12 disabled readers and 14 average readers. The average age of both groups was 9-1. The average IQ score on the *ACER Junior Nonverbal Intelligence Test* of the disabled readers was 102; for the control group it was 107. Average reading ages on four subtests of the *Neale Analysis of Reading Ability* for the disabled readers were 6-7 to 6-9, and for the control group they were 9-10 to 10-8. Stimuli were vertical square-wave gratings generated on an oscilloscope. Each trial consisted of a grating-blank-grating cycle repeated 10 times. The duration of the reported blank interstimulus interval was the independent variable, measured by the length of time after the blank screen was shown and the subjects report of seeing a blank screen. The stimuli in the four experiments varied in the length of the stimulus durations, amount of contrast, and spatial frequency (number of cycles per degree). The 3-way ANOVA of the data for each study support the conclusion that disabled readers do differ significantly from normal readers in visible persistence under the various experimental conditions. Concludes that 70% of the disabled readers were Visual Disabled Readers and 30% Nonvisual Disabled Readers.

POLATAJKO, HELENE J. A critical look at vestibular dysfunction in learning-disabled children. *Developmental Medicine & Child Neurology*, June 1985, *37*, 283-292.

Investigates the vestibular dysfunction hypothesis in learning disabilities. Subjects were 40 LD children and 40 normal children between the ages of 8 and 12. Academic test data included the *Peabody Individual Achievement Test (PIAT)* and the *Slosson Intelligence Test*. The vestibular testing was completed by experienced laboratory technicians and included examination of calibration records, search for spontaneous and gaze nystagmus, testing smooth pursuit, and vestibular and optokinetic testing. Only vestibular nystagmus data were included. The average Slosson IQ score of the normal subjects was 128, for the LD subjects it was 105. Average achievement score on the PIAT was approximately 2.4 for the normal children and 1.4 for the LD children. Data were analyzed using MANOVA, multiqual analysis, and correlation procedures. There was no significant difference either in the intensity of vestibular responsivity or in the incidence of vestibular dysfunction between the normal and LD children. Children classified as having low, average, or high vestibular responsivity did not differ significantly on the PIAT. The correlation coefficient between vestibular functioning and academic achievement was not significant. Concludes that there is no significant educational relevance in categorizing learning disabled children according to vestibular dimensions.

TORNÉUS, MARGIT. Phonological awareness and reading: A chicken and egg problem? *Journal of Educational Psychology*, December 1984, *76*, 1346-1358.

Investigates the causal relationship between metaphonological skills (sound blending and segmentation) and reading/spelling in two studies. Data (including tests of cognitive ability, reading and spelling skill, language development, as well as four different metaphonological tests) from a longitudinal study of 46 dyslexics and 44 control children with normal reading and spelling ability were used to test a number of causal models by LISREL. The metaphonological tasks required sound segmentation, sound blending, position analysis ("What sound comes after *o* in the word *police*?"), and segment deletion ("What have I taken away from the word *ask* when only *ak* is left?"). The results supported the hypotheses that early spelling ability is primarily dependent on metaphonological abilities and only indirectly affected by linguistic and cognitive development. The causal model for reading that obtained empirical support was similar, with the exception that it also included a direct causal path from cognitive development to reading. The second study was an experimentally designed training study in first grade. Thirty-eight Swedish children attending three different classes participated in the study. The experimental group (Male = 10; Female = 9) received me-

taphonological training for eight sessions of 20 minutes each, while the control group (Male = 8; Female = 11) participated in general language activities led by their teachers. Pre- and posttesting included reading, spelling, sound blending, and segmentation. The training had significant effects on the metaphonological skills of the experimental group. Among children with the lowest metaphonological pretest performance, a significant Group X Testing Occasion interaction resulted, indicating that specific metaphonological training improved the spelling performance more than did general language activities.

LIBERMAN, ISABELLE Y., & SHANKWEILER, DONALD. Phonology and the problems of learning to read and write. *Remedial and Special Education*, November/December 1985, *6*(6), 8-17.

Summarizes research and theory pertaining to the role of phonology in learning to read and write. After defining phonology, its relation to literacy, to naming, and to sentence comprehension are explored. Particular attention is devoted to poor readers and the difficulties in the phonologic domain that contribute to their problems. Fostering phonological development is recommended as a means of preventing reading difficulties.

LEVI, GABRIEL, & PIREDDA, M. LETIZIA. Semantic and phonological strategies for anagram construction in dyslexic children. *Journal of Learning Disabilities*, January 1986, *19*, 17-22.

Compares the performance of normal readers, disabled readers, and dyslexics in solving anagrams. Subjects were Italian pupils, ages 8 to 10, who were selected through a screening process. The 18 subjects in each group were matched on CA and IQ. Dyslexics were defined as those children who showed a reading retardation of 2.6 years relative to CA; retarded readers, as those who fell 12-18 months below CA in reading. WISC IQ for all groups ranged between 87-106. Five stimulus words were presented and children were given five minutes to provide anagrams. Incorrect responses were qualitatively analyzed into four categories. Results showed that dyslexics gave fewer correct answers than the disabled readers, who, in turn, gave fewer correct answers than the normal readers. When incorrect responses were analyzed, it was found that the pattern of dyslexics' errors differed from that of the normal and disabled readers.

SHANKWEILER, DONALD; SMITH, SUZANNE, T.; & MANN, VIRGINIA A. Repetition and comprehension of spoken sentences by reading-disabled children. *Brain and Language*, November 1984, *23*, 241-257.

Tests the abilities of 35 third-grade children with specific reading disability and 35 normal classmates matched for age and IQ to repeat and comprehend a variety of spoken sentences, each of which presented a problem in assigning pronoun reference. Three boys and 15 girls whose mean *Iowa Test of Basic Skills* grade equivalent score was 4.59 comprised the good reader group; 9 boys and 8 girls (Mean ITBS = 2.32) comprised the poor reader group. All subjects were tested for sentence comprehension using a picture verification task in which they listened to the sentences, examined each of four pictures, and identified the one that best matched the sentence meaning. In a subsequent session, the eight tokens each of five sentence types were presented and subjects were asked to repeat each. Repetition data were analyzed both in terms of the number of incorrectly recalled sentences, and in terms of the total number of individual errors made for each type of sentence, separately for good and poor readers. Sentence comprehension analysis was performed on the number of error responses made on each sentence type. Good and poor readers differed significantly in immediate recall of the reflexive sentences, but not in comprehension of them as assessed by picture choice. It was suggested that the pictures provided cues which lightened the memory load, a possibility that could explain why poor readers were not demonstrably inferior in comprehension even though they made significantly more errors than the good readers in recalling sentences.

WONG, BERNICE Y.L., & SAWATSKY, DOROTHY. Sentence elaboration and retention of good, average and poor readers. *Learning Disability Quarterly*, Summer 1984, *7*, 229-236.

Reports results of two studies designed to determine differences between good and poor readers' sentence elaborations, as well as the effects on training on the precision of poor readers' elaborations. Study I was an attempt to replicate previous findings on sentence elaboration. Subjects were 17 good, 16 average, and 28 poor readers from grades 5-7 who were instructed to read 12 sentences containing arbitrary relations between agents and events, and asked to generate elaborations to aid comprehension and retention. Sentences were scored from 0-2, depending upon their precision and semantic congruence. Results indicated that compared with average and poor readers, good readers generated substantially more precise elaborations and recalled more information. However, the groups of average and poor readers did not differ from one another in sentence elaboration or recall. This finding was attributed to low-average readers constituting the majority of the average group. The purpose of Study II was to train low-average and poor readers to produce precise elaborations. Twelve poor readers were randomly selected for training, using a self-questioning procedure modelled on cognitive behavior modification. All trained subjects improved their elaborations scores markedly at posttest ($p < .0001$).

FORREST-PRESSLEY, D.L., & WALLER, T.G. Knowledge and monitoring abilities of poor readers. *Topics in Learning and Learning Disabilities*, January 1984, *3*, 73-80.

Presents the results of a study conducted by the authors indicating that older and better readers know more about monitoring comprehension, as well as about different strategies that can be used if comprehension breaks down. Younger and poorer readers showed a lack of knowledge about these monitoring skills.

SNOWLING, MAGGIE; GOULANDRIS, NATA: BOWLBY, BARIA; & HOWELL, PETER. Segmentation and speech perception in relation to reading disability: A developmental analysis. *Journal of Experimental Child Psychology*, June 1986, *41*, 489-507.

Reports three experiments that compared the speech processing abilities of dyslexic readers to age-matched and reading-ability matched children. There were 19 disabled readers in the first two experiments ranging in age from 9-0 to 12-8 and with a mean full-scale WISC-R score of 104. Readers had a 12-month deficit in reading on the *Schonell Graded Word Reading Test*. Subjects were matched with normal readers (CA) on age and intelligence, as measured by the *British Picture Vocabulary Scale*. They were also matched with 19 younger readers of similar IQ and reading age (RA). Subjects in Experiment 3 were 12 different dyslexic readers of similar age, IQ, and reading achievement; and matched to RA and CA subjects by the same methods used in Experiment 1. All stimuli were 24 high-frequency and 24 low-frequency words and 48 nonwords; all stimuli were presented auditorially via earphones. In Experiment 1, stimuli were presented with no noise, low noise, or high noise, and the subjects' task was to repeat the stimuli. Dyslexic readers performed as well as both RA and CA controls on high-frequency words, and lower than both control groups on nonwords. Experiment 2, using the same children and stimuli, was a lexical decision task; but stimuli were presented only with no noise and low noise. Experiment 3 was the same, but with different subjects and the high noise condition was added. In both experiments, dyslexic readers scored significantly lower than CA controls, with scores equivalent to the RA controls.

ZIVIAN, MARILYN T., & SAMUELS, MARILYN T. Performance on a wordlikeness task by normal readers and reading-disabled children. *Reading Research Quarterly*, Spring 1986, *21*(2), 150-160.

Uses a double matched-pairs design to investigate whether differences exist between good and poor readers in their ability to integrate orthographic and phonemic information in the identification of real and pseudowords. Subjects were 10 disabled readers matched on age to 10 normal readers and matched on reading ability to a different sample of 10 normal readers. The average age of the reading-disabled children was 9.5 and their average reading and spelling scores on the WRAT were 2.8 and 2.3 respectively. On the basis of the WISC-R, it was judged that these children had general potential to do well in school. The average age of the reading-matched subjects was 7.5, and their reading and spelling scores were 2.5 and 2.6 respectively. The age-matched normal readers' WRAT scores were 6.2 and 5.2. Stimuli were a list of 10 four-letter words and three lists of pseudowords, anagrams of the real words: orthographically correct, orthographically incorrect, and embedded pseudowords. Embedded pseudowords contained one three-letter real word preceded or followed by a consonant (e.g., dcar). Children were presented pairs of lists and asked to choose the stimulus type that was more like a real word. The six orthogonal pairing were presented, in each of three modes: visual, listening, and bimodal. The findings indicated that embedded words were salient for beginning readers, knowledge of orthographic structure was positively correlated with reading ability, disabled readers and normal readers were equivalent in integrating visual and aural input, and the increase in sight vocabulary in disabled readers was not accompanied by a similar increase in their knowledge of orthographic structure.

SWANSON, H. LEE. Do semantic memory deficiencies underlie learning disabled readers' encoding processes? *Journal of Experimental Child Psychology*, June 1986, *41*, 461-488.

Investigates the extent to which learning disabled readers' encoding relates to their semantic memory. Subjects were 26 nondisabled and 26 learning disabled (LD) boys, divided into two age groups, 9 and 12 year olds. All subjects were administered the WISC-R and the *Peabody Individual Achievement Test*. The average reading percentiles of the LD and normal subjects were approximately 15 and 72 respectively. Average IQ score ranged between 105 and 110 for the four groups. Additionally, all LD subjects had scored between the 35th and 50th percentiles on the *Key Math Diagnostic Test*. All subjects heard a dichotic tape consisting of eight word list pairs. Each word list contained 12 monosyllable pairs: four each of semantically, phonemically, and structurally related words. Half the subjects received orienting instructions to remember words that go together, rhyme, or begin with the same letter. Dependent variables were lateralization, free recall, retrieval organization, and selective attention. All subjects' ear asymmetry differences were dependent upon age, orienting instructions, and type of word list. LD subjects did perform significantly less well than normal readers.

FAGAN, WILLIAM T., & EAGAN, RUTH L. Cues used by two groups of remedial readers in identifying words in isolation. *Journal of Research in Reading*, February 1986, *9*, 56-68.

Compares the performance of two groups of elementary and junior high school remedial readers on identifying words in isolation. Subjects consisted of seven pupils who made a minimum of two years progress in a 10-week remedial program and six pupils who made no progress in the same program. Pre- and post-performance on the *Standard Reading Inventory*, an individually administered oral reading test, served as the dependent variable. Childrens' responses were analyzed in terms of size of units, word frequency, and graphic clues.

Results found that the pupils making the gains used all size letter units to a greater degree than their no-gain counterparts. The gain group also tended to use more units of varying sizes, more ascending, descending, medial, and final cues than the nongainers.

SEIDENBERG, MARK S.; BRUCK, MARGARET; FORNAROLO, GAIL; & BACKMAN, JOAN. Word recognition processes of poor and disabled readers: Do they necessarily differ? *Applied Psycholinguistics*, June 1985, *6*, 161-180.

Compares the word recognition abilities of good and poor readers. Three groups of third- and fourth-grade subjects (good, poor, and disabled readers) were matched on the basis of age, grade and sex. Subjects were tested on sets of monosyllabic words and nonwords which were manipulated as to regularity of spelling patterns. Analyses were conducted for speed (response latencies), accuracy, and response type. Both latency results and error data (accuracy) revealed differences in overall levels of performance, with good readers performing better than poor readers, who, in turn, performed better than disabled readers. However, the qualitative analysis of pronunciation errors indicated that the error patterns exhibited by disabled readers did not differ significantly from those of poor readers.

GILLAM, RONALD B., & JOHNSTON, JUDITH R. Development of print awareness in language-disordered preschoolers. *Journal of Speech and Hearing Research*, December 1985, *28*, 521-526.

Investigates environmental print awareness and related oral language abilities in language-disordered and normally developing preschoolers. A sample of 10 language-disordered and 10 age-matched normal-language children, ages 3 to 6, served as subjects. Each subject participated in a four-stage environmental print task and an expressive labeling task. Ten high frequency items were presented in four conditions in which print was systematically decontextualized and subjects were required to match object with print. Results revealed that the language-disordered subjects performed less well on all tasks than did the normal subjects. Normal subjects responded better to print settings that contained reduced nonprint cues. Relative difficulty of the four conditions was similar for the two groups, suggesting the same developmental pattern. General language ability was a good predictor of performance across the various cue conditions as well as of performance on the print-only conditions, even when the effects of mental age were partialed out. Oral language proficiency was also significantly related to print awareness.

MORAIS, JOSÉ; CLUYTENS, MIREILLE; ALEGRIA, JESUS; & CONTENT, ALAIN. Speech-mediated retention in dyslexics. *Perceptual and Motor Skills*, February 1986, *62*, 119-126.

Examines whether young severely disabled readers can use a verbal code for mnemonic purposes to the same extent as normal readers. Subjects consisted of one group of 27 dyslexics (ages 6 to 9 years) and one group of 12 similar aged normal readers. All subjects were Belgian school children. Each group was tested on the same memory task with rhyming and nonrhyming items. A series of black-and-white drawings were presented. In some, the names of the drawings rhymed; in others, the names were nonrhyming. Nonrhyming pairs were recalled significantly better than rhyming pairs for each group, suggesting that young dyslexics can spontaneously retain informaiton using a verbal code.

LIEBERMAN, PHILIP; MESKILL, ROBERT H.; CHATILLON, MARY; & SCHUPACK, HELAINE. Phonetic speech perception deficits in dyslexia. *Journal of Speech and Hearing Research*, December 1985, *28*, 480-486.

Explores the patterns of phonetic deficits in an adult dyslexic population in which dyslexia appears familial. A group of 18 adult dyslexics was compared to a control group of university students who had no reading disabilities. Four series of vowel and stop consonant identification psychoacoustic tests were administered using both natural and synthesized

speech stimuli. A dictation procedure was used whereby dyslexic subjects repeated orally what they heard. The average vowel error rate was 29% and the average consonantal error rate was 22%. These error rates were significantly different from those of the nondyslexic control group. Patterns of errors varied with different subgroups suggesting that dyslexics have different perceptual deficits rather than a general auditory deficit.

MALATESHA, R.N. Visual motor ability in normal and disabled readers. *Perceptual and Motor Skills*, April 1986, *62*, 627-630.

Examines the relation between visual motor ability and reading achievement in normal and dyslexic readers. Twenty-eight dyslexic pupils were selected from a population of third graders and matched on the basis of age, sex, and IQ with normal readers. Using the *Boder Reading and Spelling Pattern Test*, the dyslexic readers were further classified as sequential-deficient or simultaneous-deficient. All subjects were administered the *Bender Visual-Motor Gestalt Test*. An analysis of variance found that simultaneous-deficient readers scored significantly lower than sequential-deficient readers who, in turn, scored significantly lower than normal readers.

IV-14 Sociocultural factors and reading

SHANNON, PATRICK. Reading instruction and social class. *Language Arts*, October 1985, *62*, 604-613.

Reviews recent research suggesting that reading instruction may perpetuate social class stratification. Research is categorized under the following headings: Social class and ability grouping, Teacher expectations and social class, Social class and teachers' unequal treatment of reading groups, and Solutions to the apparent problem. The author feels that the research suggests that social classes are treated differently during reading instruction and that this may contribute to social class stratification.

DAVIDSON, GRAHAM. Australian Aboriginal spatial cognition and dyslexia: A Criticism of Pontius (1982). *Perceptual and Motor Skills*, April 1984, *58*, 627-634.

Refutes findings and conclusions of an earlier report linking distortions in the drawings of the human face by Australian Aborigines with poor reading performance symptomatic of a neuropsychological disorder. The author claims that the research did not take into consideration the relevant cultural traditions of the Aborigines or factors surrounding their educational performance.

BLANE, D.C.; PILLING, DORIA; & FOGELMAN, K. The use of longitudinal data in a study of children's school mobility and attainment. *British Journal of Educational Psychology*, November 1985, *55*, 310-313.

Uses longitundinal data collected on young children in England, Scotland, and Wales to investigate whether frequent changes in schooling adversely affect children's academic attainment and their behavior. Information about the children was collected at ages 7, 11, and 16, with information coming from parent interviews, the school, and scores on reading comprehension and mathematics tests. Descriptive data suggested lower scores for more mobile children; however, many of these differences existed before the changes of schooling occurred. Therefore, multivariate analyses were used to adjust for initial differences in attainment and social and home circumstances. Findings of multivariate analyses suggested that the effects of school mobility on attainment are small or marginal and that most differences can be explained by pre-existing differences among children. The authors caution against drawing conclusions from heavy reliance on ex post facto data.

NEUMAN, SUSAN B. The home environment and fifth-grade students' leisure reading. *Elementary School Journal*, January 1986, *86*, 335-343.

Administers a 93-item questionnaire to parents of fifth-grade pupils for the purpose of identifying and measuring process variables in the home environment that might relate directly to children's leisure reading behavior. The questionnaire was designed to measure six categories of common home behaviors that would support a stimulating home environment and positive attitudes toward reading: work habits, parental academic guidance, diverse leisure activities, parental expectations, independence and responsibility, and parental encouragement of reading. Children's leisure reading behavior was also assessed with the questionnaire by five questions relating to amount read, reading environment, and types of books read. Consent forms were sent to the parents of 254 fifth-graders in 12 Boston elementary schools; 122 parents volunteered for the interview, and 84 were actually interviewed. Sixty-four percent of the parents were white, 14% Hispanic, 13% black, and 7% represented other nationalities. Correlation and partial correlation coefficients were calculated to measure the degree of association between process variables, measures of leisure reading behavior, gender, and SES. SES correlated significantly with parental encouragement of reading (.39), diverse leisure activities (.36), total leisure reading (.33) and four of the six separate measures of leisure reading (.20 to .29). Gender correlated significantly only with the number of books read in the last month (.25), with girls reading more books. Partialling out SES and gender, the amount of leisure reading correlated significantly with three of the home process variables: parental encouragement (.41), diverse leisure activities (.25), and independence and responsibility (.23). Children in the sample read an average of 2.33 books per month and an average of 15 minutes per day; they watched television an average of 3.6 hours per day.

MARCUS, ADRIENNE M. Academic achievement in elementary school children of alcoholic mothers. *Journal of Clinical Psychology*, March 1986, *42*, 372-376.

Compares the academic achievement of elementary school age children who have alcoholic mothers with a group of similar children who have nonalcoholic mothers. The experimental group consisted of 40 children (ages 7 to 12) whose mothers reported themselves to be alcoholic; the control group consisted of children whose mothers reported that they had not had a drinking problem. The two groups of children were not significantly different on age, grade level, number of siblings, or previous grade retention. All children were administered the *Peabody Individual Achievement Test* to assess academic achievement. Structured interviews were conducted with each of the mothers to collect demographic information, child's school history, maternal drinking history, pregnancy history, and information regarding present drinking practices. Participating mothers were generally white, well-educated, and middle- to upper-class. Children of alcoholic mothers scored significantly lower on Mathematics, Reading Recognition, Reading Comprehension, and Total Test than did control children and had score distributions that were considerably more variable.

PELLEGRINI, ANTHONY D.; BRODY, GENE H.; & SIGEL, IRVING E. Parents' book-reading habits with their children. *Journal of Educational Psychology*, June 1985, *77*, 332-340.

Explores the behavior of parents while reading to their children. A sample of 120 families participated in the study. One-half of the families had target children with communicative disorders and the other half had children with no communication handicaps. The target children were divided into two age groups, four-year-olds and five-year-olds. Each parent read a different story to the child. Story-reading sessions were videotaped. Parents' interactions with children were classified according to levels of cognitive demand and directiveness and analyzed by the different ages and different communicative competence of the children. Relationships between parental interaction variables and children's verbal IQ were also exam-

ined. It was found that parents were more directive and less demanding with younger communicatively handicapped children than they were with older non-communicatively handicapped children. Particular types of parental interaction styles were also found to be associated with children's IQ.

THOMPSON, W. WARREN. Environmental effects on educational performance. *The Alberta Journal of Educational Research*, March 1985, *31*, 11-25.

Investigates the influence of the environment on the educational performance of 392 seven- and ten-year-old children randomly selected from a stratified sample of 115 elementary schools in Northern Ireland. Subjects were tested on various measures of intelligence, reading, and mathematics. Information on school, neighborhood and home environments was obtained by questionnaires and rating scales completed by principals, teachers, the inspectorate, educational welfare officers, and health visitors. Information from parents was gathered through questionnaire and home interview. Ninety-five environmental measures of the school, neighborhood, home, parental attitudes toward education, and parental behaviors regarding education were subjected to factor analysis and reduced to 29 composite environmental variables. The measures of educational performance were statistically set against the environmental measure by means of both factor analysis and regression analysis. Results demonstated a close association between the home environment and variations in educational performance as compared with the minimal influences of the school and neighborhood environments. The best individual environmental predictors of educational performance were Home Literacy, Educational Ambition, and Socio-economic Efficiency. For reading, the predictors had much more influence for older than younger children. For the younger group, the best individual predictors of reading performance (with percent variation) were Home Literacy (7.5), Educational Ambition (5.9), and Formal Methods (5.5), while for the older children they were Home Literacy (14.4), Educational Ambition (13.9), and Homework (5.1). Environment had more impact on measured intelligence than on attainments and more impact on reading than on mathematics. The effect of environment was progressively stronger with age. Parental behaviors and not parental attitudes were the important predictors of educational performance.

EVANS, ELLIS D. Longitudinal follow-up assessment of differential preschool experience for low income minority group children. *Journal of Educational Research*, March/April 1985, *78*, 197-202.

Determines the long-term educational progress of low income, minority high school students who had experienced two different approaches to preschool education. Subjects, students who had been enrolled in Distar (n = 27) or conventional Head Start (n = 17), were compared with 20 who had no formal preschool history, and 33 whose preschool history was indeterminate, on the *Quality of School Life Scale*, and a self-report checklist for memories and sentiments about preschool. Measures of reading and arithmetic achievement were the *Metropolitan Achievement Test* and the *California Achievement Test*, and a school minimum competency test. Scores were also correlated with the dependent measures from the original study, when these subjects were tested as preschoolers. No significant differences were found for achievement or competency testing or for quality of school life scores. Differences were found in program-by-sex interactions, with males without preschool experience showing the weakest achievement patterns. Statistically significant relations were found between intelligence scores at the preschool level and reading achievement at grades 6 and 8. Students with preschool experience had mostly favorable memories about those experiences and thought they were helpful for later school tasks.

IV-15 Reading interests

HUNT, PETER (Ed.) *Further Approaches to Research in Children's Literature.* Cardiff, Wales: UWIST Department of English, 1982.

Contains a series of papers, some research in nature, all dealing with various aspects of children's literature. Many of the reports are very brief and contain little information about procedures, subjects, or methodology. Topics covered range from the historical analysis of British juvenile periodicals to a three-year longitudinal study following the reading habits and interests of 40 British children.

OLLIFF, CHARLEEN B., & CLARKE, BARBARA K. Children's reading interests: Identification and implications. *Journal of Reading Education*, October 1985, *11*(1), 25-31.

Reviews selected research on children's reading interests and draws implications for instruction. The influence of reader related and text related factors is noted for primary and intermediate grades. Implications are noted for reading comprehension assessment, basal reader instruction, and teacher preparation and practice.

FRY, DONALD. *Children Talk About Books: Seeing Themselves As Readers.* Milton Keynes, UK, and Philadelphia, PA: Open University Press, 1985.

Reports conversations with six young readers over a period of eight months about their reading and books they read. The subjects were 8, 12, and 15 years old. The description of each reader has three elements. First, each is characterized in terms of his/her observable reader behaviors. Second, an account is given of each reader's experience with one or more books read during the period of the study. Third, readers are described in terms of what kind of activity reading is for them, and what its place is in their lives. Finally, the reading of fiction is examined as a form of learning.

HILL, SUSAN E. Children's individual responses and literature conferences in the elementary school. *The Reading Teacher*, January 1985, *38*, 382-386.

Explores, in a case study approach, the responses of four children in a combined fifth- and sixth-grade classroom to a literature based reading program. The researcher was a participant observer in the classroom for about a year. Book conferences between teacher and children were tape recorded, transcribed, and analyzed. Data on reading habits and interests were obtained via observation, interviews, and questionnaires. Individual book conferences were held once a week. Content analysis of the tapes revealed four major categories in each child's book conference: story content, literary analysis, personal responses, and guidance/miscellaneous. The one boy and three girls studied were selected by the teacher as representing a wide range of interests and reading abilities. The three better readers tended to focus on literary analysis and personal response; the poorer reader, on recall of content. Interactions with the teacher were varying and individual in nature.

MCNAMARA, SHELLEY G. Children respond to satire in picture books. *Reading Improvement*, Winter 1984, *21*, 303-323.

Examines the responses of 24 pupils toward contemporary satire as a genre of literature. Five selections from children's picture books published after 1970 were chosen using a checklist of criteria associated with satire in the professional literature. Groups of four children were randomly selected from three fourth-grade and three seventh-grade classrooms. All subjects were average or above in mental ability and reading at or above grade level. Members of each group heard the selection read aloud in varied order and responded to a questionnaire designed to reflect the characteristics of satire. At the end of the treatment, each subject was given a set of oral preference/rejection questions pertaining to the total set of

selections. Nearly all subjects expressed enjoyment of satirical literature. Pupils did not respond to themes or associate them with their own lives. From the percentage of responses, the research concluded pupils did not comprehend sarcasm, ridicule, social criticism, condemnation, contempt, or derision. Females more often than males evidenced critical understanding and response to satire as humor. Males evidenced greater recognition of exaggeration. Seventh graders showed more critical understanding, awareness of verbal humor, and recognition of such techniques of satire as stereotyping, ridicule, and social criticism, while fourth graders evidenced greater response to physical humor. All children were capable of critical rather then merely literal understanding, and demonstrated understanding of verbal and physical humor.

GRAHAM, SHEILA A. Assessing reading preferences: A new approach. *New England Reading Association Journal*, Winter 1986, *21*(1), 8-11.

Reports the results of a reading interest survey administered to fourth grade pupils (n = 204) in six schools. The instrument was a paired-comparison format questionnaire, consisting of 10 categories. The 10 categories were chosen with reference to previous research, and were accompanied by a brief description. Each category was randomly paired, and children selected which of the two they preferred to read. The different preferences of boys and girls were noted. Sports was the category most preferred by boys and least preferred by girls. Both sexes exhibited interest in mysteries, humor, and adventure stories.

ANDERSON, GARY; HIGGINS, DIANA; & WURSTER, STANLEY R. Differences in the free-reading books selected by high, average, and low achievers. *The Reading Teacher*, December 1985, *39*, 326-330.

Examines the free-reading selections of fourth and sixth graders to compare differences among high, average, and low achievers. Pupils (n = 476), who were classified according to their scores on the reading comprehension section of the *Stanford Achievement Test*, kept a free-reading log for five weeks. Logs were collected weekly, but the first week was not included in the analysis, nor were titles read by children across achievement levels. Three researchers classified each book into 1 of 11 categories. The most popular and least popular categories were similar across achievement levels. The readability of selections, as measured by the Fry formula, did not differ across achievement levels. High achievers chose longer books than average achievers ($p < .05$), but of comparable length to low achievers. High and average achievers in fourth grade finished more books than low achievers ($p < .05$), while sixth grade high achievers finished more than the other two groups ($p < .05$), who did not differ.

JOHNSON, DALE M.; PEER, GARY G.; & BALDWIN, R. SCOTT. Protagonist preferences among juvenile and adolescent readers. *Journal of Educational Research*, January-February 1984, *77*, 147-150.

Explores the stability of juvenile and adolescent preferences for sex and age of main characters in books by asking male (n = 2,487) and female (n = 2,366) subjects in grades 4-10 to rate the importance of these characteristics in their leisure reading. Subjects completed a self-report interest and attitude inventory and answered five questions related to interest in reading a book where the main characters were female, male, same age, younger, or older. A Spearman rank-order correlation coefficient was computed between the rankings of grade level and positive responses. As grade level increases, the importance of male protagonists to males decreases, the importance of female protagonists to males increases, the importance of male protagonists to females increases, the importance of female protagonists to females neither increases nor decreases. Readers prefer to read about protagonists near their own age, rather than older or younger. Reading about younger characters becomes less desirable for older subjects, although girls were less sensitive to the age issue than boys.

McKENNA, MICHAEL C. Reading interests of remedial secondary school students. *Journal of Reading*, January 1986, *29*, 346-351.

Administers a reading preference scale to 576 junior high and high school remedial readers to determine preferred topics. The rating scale consisted of 44 topics which students were to respond to as "Yes," "No," or "Maybe" in terms of whether or not they would like to read a book about each. No topic was selected more by high school students than by junior high students. The number of topics preferred declined with increasing years in school. Girls tended to select topics of an affective nature more than boys did. Boys tended to choose topics related to physical activity more than girls. Topics liked by both sexes included cartoons and comic books, weird but true stories, rock stars, ghosts, magic, stories about famous people, and exploring the unknown.

EBERSOLE, PETER, & DeVOGLER-EBERSOLE, KAREN. Depth of meaning in life and literary preference. *Psychology*, 1984, *22*(3-4), 28-30.

Reports two studies validating a simple self-rating scale of depth of meaning in one's life. Subjects, 109 undergraduate introductory psychology class volunteers for Study 1, and 76 similar volunteers for Study 2, were asked to express their preference for literary selections. In Study 1, selections were from Shakespeare and the Bible, and in Study 2, from Shakespeare and Gibran's *The Prophet*. Two of the three passages in each study were chosen as portraying life as full of meaning. The third passage portrayed life as empty and meaningless. Subjects rated their personal depth of meaning, comparing themselves to others. Ratings between subjects' choice of their personal depth of meaning and their preference for literary passages were significantly correlated.

O'CONNOR, ELAINE. Establishing the habit of reading. *New England Reading Association Journal*, Winter 1986, *21*(1), 45-51.

Reports the results of a questionnaire administered in two middle schools and one elementary school. The location and size of the schools were not reported. Seventy-three completed questionnaires were returned. The questionnaire asked five questions regarding books from the Chose-Your-Own-Adventure series. The questions inquired about what books had been read, how many, and why students liked the books. The results list the 36 individual titles read; how many were read by individuals, ranging from 1 to 20; and various reasons why pupils enjoyed the books.

HILL, SUSAN. What are children reading? *Australian Journal of Reading*, November 1984, *7*, 196-199.

Administers the *Ingram Reading Record* to 413 children ages 10-12 to investigate children's favorite authors, how they choose books to read, where they get their books, and with whom they discuss their books. Children noted every book, reader, magazine or comic they read, either at home or at school, over a 10-week period. Children reported reading 2,269 books during this time, that they choose books largely because of their content and the cover or title, that they get most of their books from the school library or the class library, and that they did not talk to anyone about the books they read, or that they discussed the books with friends. The ten most frequently cited authors are listed, as are the two most popular books.

IV-16 Attitudes and affect toward reading

MARTIN, CHARLES E. Why some gifted children do not like to read. *Roeper Review*, November 1984, *7*, 72-75.

Studies attitudes toward reading of 124 children in grades 6, 7, and 8. Children were classified as below average (n = 24), average (n = 59), and gifted (n = 41) and were administered the *Rhody Attitude Assessment* (RAA) and a Leisure Time Activities Questionnaire (LTAQ). The RAA is a 25-item Likert scale questionnaire. Those scoring below 75 on the RAA were classified as having a poor attitude reading, and those scoring above 100 were considered as having a positive attitude. The LTAQ asked for a listing of things respondents like to do when not in school and things they dislike about reading. On the RAA, poor attitudes toward reading were indicated by 46% of below average pupils, 29% of average ability pupils, and 19% of gifted children. About half of gifted pupils expressed a positive attitude toward reading. Analysis of responses on the LTAQ of gifted pupils with negative attitudes toward reading indicated that they felt that they had better things to do than read, that reading took too much time, and that the materials they were asked to read were not interesting. Below average children tended to list as causes for disliking reading reasons that focused on the mechanics of reading and the inability to comprehend what was read.

RAYKOVICZ, MARY LOU; BROMLEY, KAREN; & MAHLOIS, MARC. The reading task as viewed by good and poor readers. *Reading Improvement*, Summer 1985, *22*, 87-91.

Studies the beliefs about reading held by fifth-grade good (n = 30) and poor (n = 27) readers, identified by performance on the *Iowa Tests of Basic Skills* and on teacher judgment of performance. Subjects were administered an 11 item, open-ended questionnaire on the strategies they used when comprehension failure occurs. Overall differences existed between good readers and poor readers. Responses are reported in seven categories: reading in school; strategies for unknown material; silent versus oral reading; main idea versus details; self knowledge of comprehension; aids to comprehension; and general view. Generally, good readers had more favorable views toward reading than did poor readers. Poor readers in general thought of reading as a task which they did because it was required of them in school. Good readers tended to be self motivated and to enjoy silent reading.

JOSE, PAUL E., & BREWER, WILLIAM F. Development of story liking: Character identification, suspense, and outcome resolution. *Developmental Psychology*, September 1984, *20*, 911-924.

Examines the effect of structural factors on the development of story appreciation of 44 second-, 64 fourth-, and 64 sixth-graders who rated suspense stories on 10 affective scales. Fourth and sixth graders read four three-page stories and answered questions on each. Second graders were read the stories and individually tested. Four independent variables determined the attributes of the main character in the stories and the outcome of the story: 1) sex of character, 2) age of character (adult vs. child), 3) character valence (good vs. bad), and 4) outcome valence (positive vs. negative ending). These four variables were completely crossed, resulting in 16 versions of each base story. Results of analysis of variance indicated that similarity to character increased reader identification, and that increased identification produced more suspense. A strong developmental trend in evaluation of story endings was found: Young children preferred positive outcomes regardless of the valence of the character, but older children liked positive endings for good characters and negative endings for bad characters. Overall story liking was predicted by independent contributions of character identification, suspense, and liking of outcome, using path analysis. The results supported a proposed model of story appreciation involving these three major affective processes. All three were found to contribute to liking the overall story and all were found to become better integrated from second to sixth grade.

LAZAROWITZ, REUVEN; NAIM, RAPHAEL; & BAIRD, JOSEPH HUGH. Reading scientific material: A study in affect change towards biological creatures. *Research in Education*, November 1983, No. 30, 25-37.

Ascertains the attitudes of 36 biology student-teachers enrolled in methods courses toward the lion and the tick; the impact of reading of scientific material on these attitudes; and the relation of these attitudes to different national groups (American and Israeli). Students completed a 10-item semantic differential attitude scale as a pre- and posttest. All subjects read scientific descriptions of each animal, including morphology, habits and behaviors, and impact on environment. There were no significant differences for each national group, suggesting that the university curriculum probably didn't change former attitudes toward the topic.

WALBERG, HERBERT J., & TSAI, SHIOW-LING. Correlates of reading achievement and attitude: A national assessment study. *Journal of Educational Research*, January/February 1985, *78*, 159-167.

Utilizes data collected from the 1979-80 National Assessment of Educational Progress to determine correlates of reading achievement and reading attitude. Scores of 1,459 nine-year-olds were used. Control variables included sex, ethnicity, and socioeconomic status. Causal and alterable independent variables included home environment such as television watched and presence of newspapers, characteristics of the school, and school type. All variables were first canonically correlated with achievement and attitude. Correlation coefficients of attitude and achievement were computed with the variables. Partial correlation coefficients of reading achievement and attitude and the independent variables with the control variables partialed out were calculated. The strongest correlates of reading achievement when controlled for the less alterable variables were attitude towards reading, kindergarten attendance, use of English in the home, and stimulus materials in the home environment. Amount of television watched showed a coefficient of correlation of -.14 with reading scores.

IV-17 Personality, self-concept, and reading

ROBERTS, TESSA. Reflection–implusivity and lack of success in reading. *Support for Learning*, May 1986, *1*(2), 8-13.

Summarizes and discusses selected research related to the relation of reflective and impulsive behavior and reading. Discusses the differences in the effects of these traits in younger and older children, the effects of extreme reflection-impulsivity, and strategies and programs for modifying over-impulsivity and over-reflectiveness.

FORD, NIGEL. Learning styles and strategies of postgraduate students. *British Journal of Educational Technology*, January 1985, *16*, 65-79.

Explores whether 83 postgraduate students are versatile learners, able to adopt holistic (global approach) or serialistic (local approach) strategies while learning. Subjects first completed two questionnaires designed to assess their learning styles: the *Short Inventory of Approaches to Studying*, and a study-designed *Study Preference Questionnaire (SPQ)*. Twenty-six of the subjects then completed two tests designed to determine their learning from materials designed to favor a redundant holist or a serialist learning strategy. Two students scored equally well on both learning tests; 15 were classified as holists, and 9 were classified as serialists. Four items from the SPQ accurately predicted holist or serialist biases. Mean scores were higher when students identified as holists or serialists were matched with teaching materials identified as either holist or serialist. Scores from the Short Inventory were less valid than the SPQ as predictors of holistic and serialistic competence.

DAOUSSIS, LEONARD, & MCKELVIE, STUART J. Musical preferences and effects of music on a reading comprehension test for extraverts and introverts. *Perceptual and Motor Skills*, February 1986, *62*, 283-289.

Explores the differential effects of background music on the reading comprehension of introverts and extraverts. The sample consisted of 48 undergraduates classified as either introverted or extraverted. The results of a music survey found that both groups preferred rock and roll music, both groups kept the volume soft when playing background music for studying, but that the extraverts used background music more frequently than introverts. Subjects were assigned to either a music (rock and roll played softly) or no-music condition and asked to read two passages and answer a multiple-choice comprehension test. The results of a two by two analysis of variance found a significant interaction effect with introverts scoring lower in the music condition. The results are interpreted in terms of a model of arousal and performance.

GADZELLA, BERNADETTE M., & WILLIAMSON, JAMES DAVID. Study skills, self-concept, and academic achievement. *Psychological Reports*, June 1984, *54*, 923-929.

Explores the relations among study skills, self-concept, and academic achievement, and whether these variables contribute to the prediction of GPA for 110 undergraduates. Subjects responded to the 200-item true and false *CAI Study Skills Test*, a self reporting instrument measuring 10 areas of basic study skills, and the *Tennessee Self-Concept Scale, Clinical and Research Form*. Average GPA for the group was 2.77; average total self-concept score was the 50th percentile; and average total study skills score was 78.8%. GPA correlated significantly with total study skills and total self-concept scores. Total study skills score correlated significantly with total self-concept score. Significant coefficients were also found between GPA and most study skills scales and most self-concept subscales, between total study skills scores and most self-concept subscales, and between total self-concept score and most study skills scale scores. Stepwise multiple regression analyses suggested that the total study skills score accounted for 27% of the total variance in GPA, with no other measure adding significantly to the explanation. In the second analysis, Oral Reporting, Interpersonal Relations, and Personal Self measures accounted for 27.9% of the variance.

BLAKE, MARY E. The relationship between field dependence-independence and the comprehension of expository and literary text types. *Reading World*, May 1985, *24*(4), 53-62.

Explores the relation between field dependence-independence and the comprehension of expository and literary texts. Subjects were 121 sixth graders, all reading at or above grade level. Field dependence-independence was determined by the *Embedded Figures Test*; nine expository and literary passages and multiple-choice tests were taken from the *Iowa Silent Reading Tests*, Level 1. Pupils were randomly assigned to one of two text type groups. Mean comprehension scores were adjusted for age and IQ. The literary text group achieved a higher mean comprehension score than did the expository group. Mean comprehension scores between field dependent-independent groups did not reach statistical significance.

JORM, A.F.; SHARE, D.L.; MATTHEWS, R.; & MACLEAN, R. Behavior problems in specific reading retarded and general reading backward children: A longitudinal study. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, January 1986, *27*, 33-43.

Explores the relation of behavior problems to specific reading retardation and general reading backwardness, using a longitudinal approach, in a group of Australian children. Teachers completed a behavior questionnaire on 453 children when they entered school and again at the end of the second year and third year. Measures of reading achievement and

nonverbal intelligence were also gathered at the end of the third year to classify children as normal, specific reading retarded, or general reading backward. Results found that backward readers had behavior problems, primarily in the areas of attentional deficit and hyperactivity, when they entered school. In contrast, retarded readers showed no evidence of behavior problems either when they entered school or after their reading problems had developed.

IV-18 Readability and legibility

HARTLEY, JAMES. Current research on text design. *Bulletin of the British Psychological Society*, April 1984, *37*, 116-119.

Reviews recent research on factors in text design which may help or hinder the reader: typographical layout, such as systematic horizontal and vertical spacing; and access structures such as titles, summaries, headings, bold face, and numbering systems.

MORIARTY, SANDRA ERNST, & SCHEINER, EDWARD C. A study of close-set text type. *Journal of Applied Psychology*, November 1984, *69*, 700-702.

Investigates the effects of spacing between letters in text copy on legibility and reading speed. Subjects (260 college students) were randomly assigned to one of four treatments. A sales brochure was reproduced in four different formats. Two typefaces (serif and sans serif) were crossed with two types of interletter spacing (close and regular spacing). Subjects were instructed to read for 1.75 minutes. The dependent variable was the number of words read in that period. A significant difference in mean number of words read was found for letterspacing, favoring the close-set type. No significant difference was found for typeface or for the interaction between typeface and letterspacing.

ROBINSON, BRENT. Media in education research: Are the new electronic media a threat to literacy or a challenge for the literate? *British Journal of Educational Technology*, January 1985, *16*, 42-59.

Argues the suitability of the video screen for the development of certain reading skills, as well as the unique constraints of the video screen, and presents recommendations from research for effective print displays. Research specific to legibility of visual displays is cited.

WILKINS, ARNOLD. Intermittent illumination from visual display units and fluorescent lighting affects movements of the eyes across text. *Human Factors*, February 1986, *28*, 75-81.

Reports the results of two experiments which examined the effects of intermittent illumination on eye movements. Subjects were adult females. In the first experiment, text was presented on cathode-ray tubes (CRT). Subjects fixated on a specific letter and then, upon cue, moved their eye to another target. Two frame frequencies, 50Hz and 100Hz, were used. Horizontal eye movements were recorded binocularly. Analysis of variance yielded a significant effect for frame frequency with increased saccade size under the 50-Hz condition. In the second experiment, text was presented by fluorescent tube under two frequencies, 100 Hz and 20 Hz, and under two levels of illumination. Two pairs of targets were used, one spaced closely and one widely separated. Analysis of variance based on mean saccade size found that the main saccade was slightly larger under conditions of intermittent 100-Hz illumination than under steady illumination for widely spaced targets. The results of both studies are used to explain why reading is slower on visual display units than on conventional printed text.

CUSHMAN, WILLIAM H. Reading from microfiche, a VDT, and the printed page: Subjective fatigue and performance. *Human Factors*, February 1986, *28*, 63-73.

Reports two experiments investigating visual fatigue in adults after reading from microfiche and video display terminals (VDTs) with negative and positive images for an 80-minute period. Measurements of ocular discomfort on a Visual Fatigue Graphic Rating Scale, general fatigue on a Feeling-Tone Checklist, and speed of reading were taken periodically. Measurements of near point accommodation were taken in the second experiment. Multiple-choice comprehension questions were given at the end of each session. Results were compared to performances when reading from printed paper copies. Fatigue was greater when subjects read from negative microfiche projected on a metal screen or from the VDT screens when positive images were projected. When subjects read from microfiche projected on a matte screen or from VDT screens with negative images, visual fatigue was not significantly different from fatigue reported from reading printed paper copies. Reading speeds were slower for negative imaging conditions of light characters on dark backgrounds, than for positive imaging, dark characters on light backgrounds. Comprehension was similar across conditions.

FAGAN, JR., JOHN E.; WESTGATE, TIMOTHY M.; & YOLTON, ROBERT L. Effects of video display character size, clarity, and color on P-300 latency. *American Journal of Optometry & Physiological Optics*, January 1986, *63*, 41-51.

Reports the results of two experiments which examine the effects of video display character size, clarity, and color on mental processing speed. The latencies of P-300s served as the criterion variable. In Experiment I, 12 adult subjects were exposed to 40 or 80 column size blue characters through habitual or blurring lenses to assess processing time changes produced by changes in character size and clarity. It was found that 40 column size characters could be interpreted more quickly than 80 column size characters and that dioptric blur increased the processing time equally for both character sizes. In Experiment 2, green and amber stimuli were compared to assess the effects of character color and blur on processing time. Color did not significantly affect latency. However, latencies significantly increased when a mean add of +2.29 D for the green display or mean add of +2.57 D for the amber display were used.

LEGGE, GORDON E.; PELLI, DENIS G.; RUBIN GARY S.; & SCHLESKE, MARY M. Psychophysics of reading—I. Normal vision. *Vision Research*, February 1985, *25*, 239-252.

Presents the first in a series of papers investigating visual requirements for reading text on a TV monitor with normal vision. Six college students, each with 20/20 acuity, served as subjects. Studied were character size, sample density, blur (spatial-frequency bandwidth), number of characters in the field, and contrast polarity. Subjects read the text orally and the number of erroneous or missed words was recorded. Reading rate was computed as a product of scanning rate in words per minute and the proportion or words correctly identified. Maximum reading rates were achieved for characters subtending .3-2° of visual angle. There was a rapid decline in reading rate for letters smaller than .3°. Contrast polarity (black-on-white vs. white-on-black) had little effect on reading. When text was matrix sampled, reading rate is slowed only if the sample density is below some critical value which depends upon character subtense. A window limiting the number of characters simultaneously visible slowed rate only when it was less than four characters wide.

LEGGE, GORDON E.; RUBIN, GARY S.; PELLI, DENIS G; & SCHLESKE, MARY M. Psychophysics of reading—II. Low vision. *Vision Research*, February 1985, *25*, 253-266.

Evaluates the reading performance of 16 low-vision subjects who read text on a TV monitor. The following parameters were varied while rates were assessed: angular character size, number of characters in the field, number of dots composing each character, contrast polarity (white-on-black vs. black-on-white text), character spacing. Subjects ranged in age from 14 to 76; visual characteristics ranged widely, with seven having central loss of the visual field and six having peripheral loss. Three subjects were diagnosed as having macular degeneration, three exhibited optic nerve atrophy, and two had a congenital cataract and surgical aphakia. Findings indicated that 64% of the variance in peak reading rates could be accounted for by two major distinctions: intact central fields vs. central-field loss and cloudy vs. clear ocular media. The median peak reading rates for subjects with central-field loss was 25 words per minute (wpm); median peak reading rates for those with intact central fields was 130 wpm. Sloan M acuity was a better predictor of character optimal size than was Snellen acuity. Some low-vision subjects read white-on-black text faster than black-on-white; this was especially the case for subjects with cloudy ocular media.

COHEN, S. ALAN, & STEINBERG, JOAN E. Effects of three types of vocabulary on readability of intermediate grade science textbooks: An application of Finn's transfer feature theory. *Reading Research Quarterly*, Fall 1983, *19*, 86-101.

Tests existence of a curvilinear relation between text frequency and standard frequency index; analyzes interactions about text frequency and readability level relative to technical, technical support, and nontechnical words; and reconsiders the effects of unfamiliar words on readability measures for three science textbooks written for grades 4, 5, and 6. Text was limited to expository prose organized in paragraph format. Three groups of analyses were performed: 1) grade level; 2) subject area (physical science, earth/space science, biological science); and 3) publisher's series. Criterion variables were Dale-Chall index, Dale Score, mean sentence length, the three types of vocabulary scores, text frequency for all unfamiliar words together and by categories, and standard frequency index for all unfamiliar words and all unfamiliar words by categories. Three hundred and thirteen passages were analyzed, a total of 33,204 words. Most of the difficulty level of a text was a function of the technical words, especially for physical science and earth/space science passages. Repetition of technical words inflated the readability assessment of the text. Counting unfamiliar words without considering text frequency, the standard frequency index, and the discrimination of technical words from other unfamiliar words, inflated readability estimates.

WILLIAMS, RICHARD L., & YORE, LARRY D. Content, format, gender and grade level differences in elementary students' ability to read science materials as measured by the cloze procedure. *Journal of Research in Science Teaching*, January 1985, *22*, 81-88.

Explores the relations between content, grade, sex, and page format and readability of specific science passages as measured by the cloze technique. Nine passages were randomly selected from an existing science series, three passages from each of levels 4, 5, and 6 and representing biological, physical, and earth-space science content. Two alternate cloze tests were developed. One maintained the existing page layout and visuals; the other was retyped and duplicated. Analyses of variance found significant differences for the main effects of content (biological and earth-space content was more difficult than physical science) and grade level (grade five was more difficult than either grade four or six). No significant difference was found for page format. A significant interaction between grade and sex was also noted in favor of older males.

NG, SEOK MOI. A method for assessing the readability of reading texts in the junior school. *New Zealand Journal of Educational Studies*, May 1984, *19*, 76-78.

Uses the running record procedure to compare the difficulty levels of new stories for beginning readers in the primary schools of New Zealand and establishes a sequence of difficulty of these stories to guide teachers. Children (92) were divided into reading progress groups by their performance on the *Burt Word Reading Test*. Ten stories, four from the old series and six from the new, were read orally, and the number of errors made by the children were recorded. Results suggested that the new stories were harder than the older stories, especially for the children in the three lowest groups. Using a second group of children (83), teachers taught the old and new stories in the classroom prior to taking the running records on the children. With this procedure, while the order of difficulty of stories was approximately the same, the differences in accuracy levels between old and new scripts was not as great.

WHISSELL, CYNTHIA M., & DEWSON, MICHAEL R.J. A dictionary of affect in language: III. Analysis of two biblical and two secular passages. *Perceptual and Motor Skills*, February 1986, *62*, 127-132.

Analyzes two biblical and two secular passages for affective tone. The Dictionary of Affect in Language is a tool for the assessment of emotional tone in verbal materials. Scoring standards are provided for 4,500 words on two dimensions, Evaluation (bad/unpleasant to good/pleasant) and Activation (calm/passive to aroused/active). Two biblical passages and two passages of detective fiction were randomly selected from chosen works and then scored. Ratings were provided for each passage and differences among passages were tested. Psalm 23 (one of the biblical passages) had the highest Evaluation mean while one of the detective fiction passages yielded the lowest Activation mean.

WRIGHT, JILL D. The effect of reduced readability text materials on comprehension and biology achievement. *Science Education*, January 1982, *66*, 3-13.

Investigates the effect upon high school students' comprehension and biology achievement of providing them with biology text written at a lower readability level. Subjects were 265 ninth and tenth graders whose assigned biology text had a readability level of twelfth grade. Two chapters on genetics were rewritten to conform to a Fry Readability level of sixth grade. In addition to the shorter sentences and words, amendments included the additions of more familiar words, personal references, interspersed questions, and summaries. New terms were explained, reused, and illustrated with examples. Difficult words were spelled phonetically and key terms were emphasized visually. Expert judgment was used to ensure the comparability of content between the rewritten text and the original version. Four cloze tests, two constructed from the original text and two from the revised, were administered to each subject to place students in comprehension groups. Students were labeled as adequate or inadequate comprehenders based on their performance on the cloze passages, stratified according to biology class, and randomly assigned to control and experimental groups. After a period of four weeks using either original or modified materials, an achievement test was administered. Results of cloze tests indicated that approximately two-thirds of the subjects were labeled inadequate comprehenders, averaging less than 35% when cloze scores were combined. Use of the revised version of the text increased students' comprehension, as measured by cloze. However, biology achievement was not significantly different when students used rewritten materials for four weeks.

CRISMORE, AVON. The rhetoric of textbooks: Metadiscourse. *Journal of Curriculum Studies*, July/September 1984, *16*, 279-296.

Defines metadiscourse and surveys its frequency of use in Social Studies textbooks and nontextbook texts. Metadiscourse is defined as contentless writing in which the author gives directives to readers so they will understand what is said and meant in the primary

discourse, and so they will know how to take the author. It includes comments about the author's attitudes, confidence in assertions made, and the use of self-references and references to the readers. A taxonomy of metadiscourse was developed consisting of informational metadiscourse (goals, preplans, and postplans) and attitudinal metadiscourse (saliency, emphatics, hedges, and evaluation). A total of 18 texts, 9 Social Studies textbooks and 9 nontextbook texts representing a wide range of content and levels, were analyzed for instances of the types of metadiscourse. Frequencies are reported for each subtype of metadiscourse. Overall, nontextbooks used slightly more informative metadiscourse than textbooks but significantly more attitudinal types of metadiscourse.

ARMBRUSTER, BONNIE B., & ANDERSON, THOMAS H. Producing 'considerate' expository text: Or easy reading is damned hard writing. *Journal of Curriculum Studies*, July/September 1985, *17*, 247-274.

Presents a rationale for readable text and demonstrates the application of this rationale by constructing a 10-page chapter on the historical era leading up to the writing of the U.S. Constitution. The rationale incorporates five strategies to ensure global coherence of the chapter and three strategies to achieve local coherence. Global coherence refers to the structure or overall structure of the text, while local coherence relates to features that help the reader to integrate information within and between sentences. The five aspects of global coherence were text structure, introduction, headings and subheadings, tables, and placing information that might detract from global coherence in an inconspicuous location in the text. The three local coherence factors were linguistic connectives that make explicit the conjunctive, temporal, causal, spatial, or conditional relations between prepositions; pronoun reference; substitution and connectives.

COCKLIN, THOMAS G.; WARD, NICKLAS J.; CHEN, HSUAN-CHIH; & JUOLA, JAMES F. Factors influencing readability of rapidly presented text. *Memory & Cognition*, September 1984, *12*, 431-442.

Compares the effects on reading comprehension of rapid serial visual presentations (RSVPs) of small text segments and normal, but time-limited, text presentations. All subjects in the three experiments were college students, 24, 72, and 40, respectively. Experiment 1 compared comprehension of relatively easy texts presented on a CRT as normal pages or RSVPs of small text segments at a specific location on the screen. The rates of presentation were rapid but varied little over the four practice days. Comprehension was assessed with multiple-choice questions. Over four days of practice, reading comprehension was equivalent in the two presentation modes. Comprehension was decreased significantly, however, when successive RSVPs did not contain information that overlapped preceding information. Experiment 2 was similar, but its purpose was to vary the size of RSVPs, presentation rates and text difficulty to determine the optimal means of presenting RSVPs. It was found that comprehension was maximal for RSVPs of approximately 12 characters. In Experiment 3, texts were divided into short idea units or random units of approximately 13.5 characters each, and displayed at a rate of 300 w.p.m. Comprehension was significantly better for the idea units.

VANDE KOPPLE, WILLIAM J. Given and new information, timed typing tests, and readability. *Michigan Reading Journal*, Fall 1985, *19*(1), 12-16.

Compares the typing rate and errors made by students when typing linked and variant passages. In both linked and variant passages, the major variation occurs in the second through last sentences, after the first sentence presents the subject or topic. Each sentence after the first was designed to present new information about the topic. Linked passages introduced old information (generally some form of referent to the subject of the first sentence) in the early part of each remaining sentence, and presented the new information about that subject in the latter part of the sentence. Variant sentences are constructed in the opposite man-

ner; the new information is presented in the latter part of the sentence. Subjects were 46 high school students completing their second semester of typing. Each subject was given a set of four linked and four variant passages, each passage approximately 105 words long. Subjects were allowed five minutes to type as much of each set as possible. Dependent variables were number of strokes completed in the five-minute time limit and number of errors. There were no significant differences in the number of errors made, but subjects did type significantly more strokes on the linked passages than the variant. Concludes that linked passages are easier to read than variant passages.

CARVER, RONALD P. Measuring readability using DRP units. *Journal of Reading Behavior,* 1985, *17*(4), 303-316.

Transforms the scale from the *Degrees of Reading Power* (DRP) from DRP units into grade equivalent units. The readability scale from the DRP, DRP-Difficulty, was rescaled into a grade equivalent scale, DRP-GE-Difficulty, by using the Rauding Scale of Prose Difficulty. The Rauding Scale-GE values were matched with the DRP-Difficulty values for a sample of 360 passages ranging from elementary to college level. DRP-GE-Difficulty values, in turn, were obtained for each value of DRP-Difficulty. The concurrent validity of the new scale was assessed by comparing it to the Rauding Scale-GE in assessing the readability of a basal reading series and in predicting cloze scores. Estimates of reliability found that the DRP-GE-Difficulty was more reliable than Cloze-GE scores but less reliable than Rauding Scale-GE.

NGUYEN, LIEM T., & HENKIN, ALAN B. A second generation readability formula for Vietnamese. *Journal of Reading,* December 1985, *29,* 219-225.

Reports a revision of an earlier formula developed to assess the readability of Vietnamese prose. Word length, as an index of vocabulary difficulty, was replaced by the percentage of compound Sino-Vietnamese words. Average sentence length was also included. These two combined predictors accounted for 90% of the variance. Validity studies for the revised formula are briefly reported.

IV-19 Studies on the reading process

SALZER, RICHARD T. Early reading and giftedness—some observations and questions. *Gifted Child Quarterly,* Spring 1984, *28,* 95-96.

Reports general descriptions of a group of 11 children who were reading before the age of four. These children were selected from a group of more than 50 children. The parents of the larger group had responded to a newspaper story and television show in which the investigator had presented information about early readers. The parents of these 50-plus children had contacted the investigator, and he subsequently interviewed all of them. The interview consisted of several tasks, including: parents performing the activities they had used to help their child learn to read, such as letter naming, color naming, counting, and reading aloud; children writing their name, identifying advertising logos and words on cereal boxes and other environmental stimuli; and, if appropriate, the child reading trade books and a book manufactured for this study. From this interview procedure, 11 children were identified as able to read. The author presented several generalizations about these 11: most were avid viewers of Sesame Street and learned to read from this program; most were "fascinated" by upper-case alphabet letters by 18 months, and by 24 months were interested in lower-case letters; the children appeared in the interview to be reasonably secure; some of the children were able to write, but others did little or no writing; and they preferred to be read to by their parents rather than read by themselves.

ANBAR, ADA. Reading acquisition of preschool children without systematic instruction. *Early Childhood Research Quarterly,* March 1986, *1,* 69-83.

Explores the early reading development of six preschool children who learned to read at home without systematic instruction. A case study method was used whereby parents of the early readers responded to a combination of open-ended and structured retrospective interviews. By comparing development patterns across all subjects, a common reading acquisition process was identified. The role the parents played in promoting early literacy was explained. Based upon the results of this study a model is presented which lists the possible stages in the natural acquisition of literacy.

JULIEBO, MOIRA F. The literacy world of five young children. *Reading-Canada-Lecture,* Summer 1985, *3,* 126-136.

Describes the interactive process between child and mediator in literacy learning and compares that process between home and school. Using a qualitative research approach, the investigator acted as passive participant. In the first phase of the study, 129 hours of observation were made in the homes of five 4-5 year olds. Data consisted of field notes, audio tapes made by parents, and logs of the children's literacy behavior recorded by parents. The second phase involved 160 hours of observation made in the kindergarten class where the five children were enrolled. Findings are reported for the home and for the kindergarten. Comparisons are made between the two and important differences are identified. Finally, implications for teaching, based upon the observations, are provided.

SULZBY, ELIZABETH. Children's emergent reading of favorite storybooks: A developmental study. *Reading Research Quarterly,* Summer 1985, *20,* 458-481.

Reports one longitudinal study and one cross-sectional study of young children's emergent reading behavior. Subjects in the longitudinal study were 24 kindergarteners; subjects in the cross-sectional study were 8 two-and-half-year olds, 12 three-year olds, and 12 four-year olds. In the longitudinal study, subjects were interviewed early in the year and late in the school year. At each interview, subjects were asked to read a storybook. Subjects were given encouragement to read if they said they could not read. All interviews were recorded and transcribed, and a content analysis was made of each child's reading. The analysis was based upon a classification scheme devised by the author, and based upon theoretical considerations about general and language development. The findings support the author's classification scheme and documented significant development in children's emergent reading behavior over the year. In the cross-sectional study, similar procedures were used except that interview sessions were audiotaped and videotaped. These data were collected over a one-year period, each child reading two storybooks at each of four different sessions over the year. It was found that children's storybook reading attempts were stable over different storybooks read in the same session. The data from both studies were interpreted as revealing a developmental progression across age levels.

MALICKY, GRACE, & NORMAN, CHARLES. Reading processes of "natural" readers. *Reading-Canada-Lecture,* Spring 1985, *3,* 8-20.

Examines the reading strategies of 38 Canadian kindergarten children who had reached Doake's fourth stage of early literacy, integration of visual and nonvisual strategies to regain fluency after arhythmical reading, before they entered school. Children were screened with word lists, passages from the *Standard Reading Inventory,* and the *Peabody Picture Vocabulary Test.* Mean IQ for the sample was 116; mean chronological age was 5-9. Oral reading miscues and story retellings were analyzed to determine written language processing and the use of text data as compared to conceptual data while reading. Retellings were analyzed for the following clause types: text specific, text entailed, text experiential, and text erroneous. children used both top-down and bottom-up reading processes, making effective use of

their language knowledge and their world knowledge. A high percentage of miscues were semantically and grammatically acceptable. Approximately one-third of all miscues were corrected, especially if they resulted in a meaning change. Half of the ideas retold were either text verbatim or text paraphrases. Children on all reading levels used background knowledge to synthesize texts and to generate inferences.

DYSON, ANNE HAAS. Emerging alphabetic literacy in school contexts. Toward defining the gap between school curriculum and child mind. *Written Communication*, January 1984, *1*, 5-55.

Describes the literacy behaviors of one kindergarten boy as he approached a series of reading and writing tasks through the year. Additionally, the researcher reports how the child's behaviors were evaluated by the teacher. The child selected for the case study was part of a class of 23 children included in a descriptive study of the development of children's concepts of writing in classrooms. The boy studied is described as being at a low level of written language understanding. In addition to observational data collected twice a week for 60-120 minutes over 8 weeks, a series of writing samples were collected and interviews conducted. The findings suggested that the boy had not established a clear connection between oral and written language. His talk about his own writing indicated an attempt to represent concrete aspects of the world. Attention during literacy tasks was variable, depending upon the way a particular event was structured. While he made progress, most notably in identifying letter names, learning appeared to be related to a holistic notion of how written and oral language related to each other. In contrast, the teacher focused on specific behaviors and general objectives thought to be important in readiness programs.

JOHNS, JERRY L. Students' perceptions of reading: thirty years of inquiry. In David B. Yaden, Jr. & Shane Templeton (Eds.) *Metalinguistic Awareness and Beginning Literacy: Conceptualizing What It Means to Read and Write*. Portsmouth, NH: Heinemann Educational Books, Inc., 1986, 31-40.

Reviews the literature on children's perceptions of reading. Three areas are focused upon: disabled readers; perceptions of reading, perceptions held by children in grades K-8, and studies on teaching children about reading. The author points up the problems with research in this area. It is concluded that children are frequently confused about the process of reading, but that efforts to teach beginning readers some knowledge and understanding of reading have been successful.

BIYIN, ZHANG. The psychology of reading in China. *School Psychology International*, January/March 1985, *6*, 30-33.

Introduces and discusses recent discoveries made by Chinese psychologists regarding the nature of the process of reading Chinese. Topics discussed are neuropsychological differences between Chinese and English reading, strategies involved in comprehending Chinese sentences, and two methods of teaching Chinese characters: the concentration recognition method, and the dispersion recognition method. The concentration recognition method is a new method of teaching, first introduced in 1959. This method is reported to be akin to phonics in English, and requires teaching pupils to focus their attention on a common integral component of a morpheme or word, shown in a character listing which is not presented in a phrase or sentence context. That is, the students learn to recognize characters that are frequently used in the construction of Chinese words (not unlike learning to recognize phonic spelling patterns in English words, except that in English, that pattern will frequently be associated with a familiar sound). As in the teaching of reading in English, there is also a difference of opinion in the teaching of Chinese reading. Opposed to the concentration recognition method are those who favor teaching Chinese characters only as part of whole words, and in the context of a phrase or sentence; this method is called the dispersion recognition method.

SUN, FUCHUAN; MORITA, MICHON; & STARK, LAWRENCE W. Comparative patterns of reading eye movement in Chinese and English. *Perception & Psychophysics*, June 1985, *37*, 502-506.

Examines the patterns of eye movements in reading Chinese and English of three groups of adult readers, all professors or graduate students: four skilled Chinese readers, eight other Chinese who read English fluently, and eight Americans. Texts read were articles from *Scientific American* that had been translated into Chinese and classical Chinese poetry. Eye movements were measured using an infrared television eye monitor. The Chinese scientific texts were presented in a left-to-right format, which the authors report has been the norm in Chinese printing for the last 50 years. The poetry texts were presented in the traditional Chinese vertical format. In comparing the Chinese and English texts, it was found that the average English word was equivalent to approximately 1.5 Chinese characters. Reading rate of English (380 wpm) and horizontal Chinese (390 wpm) was equivalent when this 1.5 characters per word factor was taken into account. It was further found that the eye movement characteristics; saccades, length of fixations, regressions, return sweeps, return sweeps corrections; were similar in reading the two types of text. Comparing the reading of horizontal and vertical Chinese text, it was found that vertical text is read more slowly and with a smaller fixation span; however, the pattern of eye movements was similar to that of horizontal text.

ROYER, JAMES M. Reading from the perspective of a biological metaphor. *Contemporary Educational Psychology*, April 1985, *10*, 150-200.

Proposes a model of reading that is based upon the metaphorical usage of neurobiological knowledge. Section one of the paper presents the model, its basic units, and the organization of these units. Descriptions are also presented of the model's application during reading and recall, the development of reading skills, and possible reasons for reading difficulty. Three empirical aspects of the model are presented in section two: letter and word recognition, theme effects in reading comprehension, and the influence of text characteristics upon comprehension. The author critiques the strengths and limitations of the model in the third and concluding section.

COOPER, CHARLES R. (Ed.). *Research Response to Literature and the Teaching of Literature: Points of Departure*. Norwood, NJ: Ablex Publishing Corporation, 1985.

Presents a series of papers all focused on aspects of response to literature. The book is organized into three major sections: theories of response, ways to study response, and ways to study classroom instruction in literature. While the chapters tend to deal with various theories about response to literature, some research is reviewed. The thrust is upon what researchers still need to learn in this area.

BUNBURY, RHONDA. Levels of response to literature. *Australian Journal of Reading*, November 1985, *8*, 220-228.

Analyzes the responses of children to six works of fiction. The subjects were 60 Australian primary school children, 20 each of 7-, 9- and 11-year olds. Data from seven adults were also included in the discussion. Subjects were asked to read or listen to taped readings of two poems, two folk tales, and two modern short stories. Each pair was matched for length and degree of difficulty in language and concepts involved. After reading or listening to the literature, each subject was interviewed. For 7-year olds, 73% of the responses were literal, and 19% inferential; for 9-year olds, the respective percentages were 61 and 29; and for 11-year olds, the respective percentages were 35 and 54. Literal information was recalled better when 9- and 11-year olds read the text than when they heard it, but no significant differences

between modes were found in inferential responses. The author also reports that the children's capacities for making inferential responses were found to be sustained in all three genres of text. The nature of the interaction between the interviewer and the child appeared to have a significant effect on the type and level of the child's responses.

DALTON, JACK C. Using responses to literature to study children's thinking. *Reading Improvement*, Summer 1984, *21*, 111-120.

Analyzes children's responses to stories, with specific emphasis on abilities to retell, summarize, abstract a gist, and make inferences about motive, plans, and interacting plans. Five third graders and five fifth-grade pupils read a fable and were requested to retell it. Following the free recall exercise, subjects were asked: 1) to relate the meaning of the story in a few words, 2) if the story taught a moral or lesson, and 3) other questions specific to the fable. An examination of children's responses suggested that their thinking might be viewed as progressing along a concrete-abstract continuum and that different probe conditions tended to result in different levels of abstraction. The more spontaneous responses suggested that both third and fifth graders tended to be concrete in their thinking. Close scrutiny of the differences between retelling and meaning summarization responses revealed that both age groups demonstrated an ability to gain distance from the story. The meaning summarization responses, although not characterized by high level, inclusive abstract statements, did reflect a marked economy over the retellings. Most of the probes suggested a developmental effect, with fifth graders generally profiting more.

ROSER, NANCY, & MARTINEZ, MIRIAM. Roles adults play in preschoolers' response to literature. *Language Arts*, September 1985, *62*, 485-490.

Observes preschool children at home and in school during storytime and collects and describes language responses to the stories. Storytimes of four- and five-year-olds in school settings and at home were audiotaped. In school, children listened to 10 books read three times each; at home, four children, ages 3½ to 5, were read to by parents from the same stories plus some from their own collections. Data were collected weekly over a 10-month period. Children constructed meaning at a number of levels and a total of seven types of story talk were identified in the 200 transcripts examined. Responses of children tended to be more like those of adults than of other children. Adults were found to serve three roles: 1) co-responders, 2) informers/monitors, and 3) directors. As a co-responder, adults appeared to model the process of interaction with the text, while as informer/monitor adults seemed to foster a breadth of response in children.

DIAS, PATRICK. Researching response to poetry – Part I: A case for responding-aloud protocols. *English Quarterly*, Winter 1985, *18*, 104-118.

Proposes a research technique designed to elicit students' responses to literature. This procedure, called responding-aloud protocols (RAP), requires tape-recording of sessions with an individual student wherein the student first listens as the selected text is read aloud, is then directed to read and reread the literature or poem, to ask questions about words and terms in the text, and to express thoughts and feelings while and after reading. The major thrust of RAP is for the student to report anything that goes through his or her mind while reading. Reports, in an informal manner, the methodology of the RAP procedure as used with an unspecified number of Canadian and English 14- to 16-year old students. The procedures involve: assignment of the reading, small group discussion phase, journal writing, and RAP. No findings regarding the use of RAP with this group are given in this part of the report.

DIAS, PATRICK. Researching response to poetry – Part II: What happens when they read a poem. *English Quarterly*, Spring 1986, *19*, 9-21.

Continues the argument for a research procedure, called responding-aloud protocols (RAP), which is proffered as an approach to researching a reader's initial responses to poetry and literature. Discusses, in an informal manner, the use of this technique in two Canadian classrooms with 14- and 15-year-old students. Reports in detail the RAP procedure as used with one 16-year-old girl reading a poem. Protocols are divided into subheads according to the following: the first reading, following the second reading, re-reading the poem, what follows after a brief exchange with the interviewer, coming to an interpretation, another re-reading, the personal evaluation of the poem, and the student's comments on her feelings. Using the protocols, the author makes some tentative hypotheses about the girl's process of reading poetry.

HARKER, W. JOHN. Comprehending the discourse of poetry. In August Flammer & Walter Kintsch (Eds.) *Discourse Processing*. Amsterdam & New York: North-Holland Publishing Company, 1982, 570-581.

Provides a description of the comprehension of poetry based on current knowledge of text processing and recent theories of reader responses to literature. Argues that while the reader of prose seeks goodness of fit between schemata represented in text and schemata brought to the text based upon real world experiences, the reader of poetry encounters a separate reality from the real world. The result is that the reader of poetry alters his world view as his mind moves through the text recreating the separate reality represented there.

AARONSON, DORIS, & FERRES, STEVEN. The word-by-word reading paradigm: An experimental and theoretical approach. In David E. Kieras & Marcel A. Just (Eds.) *Methods in Reading Comprehension Research*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1984, 31-68.

Discusses the word-by-word reading procedure, including a presentation of the methodological details involved in collecting reading times utilizing this research approach. Three approaches to model building (stimulus-response, response-response, hypothetical construct-response) with the word-by-word reading paradigm are illustrated. Studies discussed indicate that a greater amount of time is spent on linguistic coding when subjects read for retention than for immediate comprehension. Coding strategy differs with the task demands. When reading for retention, more time is spent in coding structure and less in coding meaning when compared to reading for comprehension. Slow readers are selectively slow in coding lexical and structural attributes but not in coding meaning. They are not uniformly slow.

CHABOT, ROBERT J.; ZEHR, H. DAVID; PRINZO, OLGA V.; & PETROS, THOMAS V. The speed of word recognition subprocesses and reading achievement in college students. *Reading Research Quarterly*, Winter 1984, *19*, 147-161.

Reports two experiments studying the relations among speeds of word encoding, lexical access, semantic memory access processes, and reading achievement. Subjects were introductory psychology students at a large, Midwestern university (40, Experiment 1; 60, Experiment 2). All subjects were administered the *Nelson-Denny Reading Test* and a two passage measure of reading comprehension and listening/language comprehension. Recalls were scored for idea units and thematic importance. In Experiment 1, subjects made decisions about pairs of words using visual, name, or semantic information. In Experiment 2, subjects used semantic information to make decisions about words or picture pairs. Information was presented tachistoscopically. In Experiment 1, subjects recalled names of the items presented in a free recall and an aided recall, and wrote recalls for a story listened to, as well as one read. In Experiment 2, procedures were the same as in 1 except that line drawings (pictures) were included as stimuli. Speed of word recognition subprocesses accounted for

significant proportions of the variance in reading achievement, with semantic memory access accounting for the larges portion of variance. In Experiment 2, the best predictors of reading ability were the response times associated with the verbal materials, both words and pictures.

PERFETTI, CHARLES A. Reading acquisition and beyond: Decoding includes cognition. *American Journal of Education*, November 1984, *93*, 40-60.

Provides two definitions of reading, a thinking definition and a decoding definition, and then compares and contrasts the two definitions and the supporting research. Attention is focused on the implications the two definitions have on the development of reading skill. After a theoretical explanation of the reading acquisition process, it is concluded that decoding is the component unique and critical to the development of reading skill.

TAFT, MARCUS. Evidence for an abstract lexical representation of word structure. *Memory & Cognition*, May 1984, *12*, 264-269.

Conducts two experiments in which subjects judge whether a printed word was a homophone or not. There were 10 subjects in each experiment, all Australian college students. The materials for both experiments were four sets of 16 words, all the words having homophones. Sets 1 and 2 consisted of words whose homophone had a different morphological structure, set 1 words being inflected (e.g., billed-build) and set 2 being uninflected words (e.g., ode-owed). Sets 3 and 4 consisted of words whose homophone had the same morphological structure, set 3 being inflected items (e.g., cited-sighted) and set 4 being uninflected items (e.g., carat-carrot). The words were shown to subjects in list form, and subjects were to indicate if that word had a homophone. In Experiment 1, subjects were not allowed to say the words aloud; in Experiment 2 they were instructed to read the words aloud. The dependent variable was number of correct responses. Using planned comparison ANOVA, it was found that when instructed to read silently, there were more mistakes on words whose orthography suggested a morphological structure different from that suggested by their homophones. There was no significant difference when words were read silently and the two members of the homophonic pair had the same morphological structure. Performance on morphologically different homophones significantly improved, however, when reading words aloud. Concludes that inflected words are represented in the lexicon as a stem plus an affix, and that silent reading involves a more abstract phonological representation than actual reading aloud.

JOHNSTON, PETER, & AFFLERBACH, PETER. The process of constructing main ideas from text. *Cognition and Instruction*, 1985, *2*,(3&4), 207-232.

Examines the processes of constructing main ideas by analyzing the oral reports of expert readers while reading difficult text. Subjects were two graduate students, one in public administration and one in counseling psychology, and an assistant professor in biological anthropology. All subjects read each of four 400-600 word texts selected from professional journals. Subjects were given specific directions on how to think aloud while reading and practice with one paragraph. Numerous findings are presented, including that main ideas were constructed before, during and after reading; that familiarity with text-relevant information played a major role in assigning importance during main idea construction; that certain text-based cues were used, including concept overlap and repetition, relational terms, paragraph structure, interparagraph relations, and text grammars; and that reactions to the writer's particular style of writing were important in determining main ideas. There appeared to be four main approaches to main idea construction: a proactive, hypothesis-testing approach in which a probably main idea is posited that is later confirmed or refuted; a two-stage drafting and revising process; constructing a rough draft of the idea and then checking it by rereading or skimming, for "goodness of fit;" and skimming the paragraph before reading and listing the important words.

AARONSON, DORIS, & FERRES, STEVEN. Reading strategies for children and adults:

A quantitative model. *Psychological Review*, January 1986, *93*, 89-112.

Proposes and evaluates an additive model to account for reading times for two different reading tasks: reading for recall, and reading for comprehension. Subjects were 48 college-age adults, and 64 fifth-grade, 9-11 year old children. They viewed each of 80 sentences displayed on a computer screen one word at a time in a self-paced reading task. To extinguish the preceding word, record its presentation time, and activate the next word onto the screen, subjects pressed a key. Half the subjects, the comprehension group, answered a true-false question about each sentence, while the other half, the recall group, orally recalled the sentence. Mean accuracy on the true-false task was 90% for children and adults; mean score on the recall task was 80% for the children and 90% for the adults. It was found that skilled adults spent relatively more time processing structure in the recall task, but meaning in the comprehension task. Fifth graders did not differentiate the task demands to the degree that the adults did, and used a mixture of adult strategies. The remainder of the paper interprets various aspects of the performance of the subjects and develops a model that proposes that readers have processors that handle lexical, structural and meaning information in sentences. It was hypothesized that the various age, task, and reading speed groups use these processors for varying amounts of time. The model was supported by nine empirical indices of lexical, structural, and meaning attributes of text.

DAVIDSON, BRIAN J. Activation of semantic and phonological codes during reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, April 1986, *12*, 201-207.

Reports a series of three experiments to determine what coding processes are activated while reading connected text and how coding processes are affected by the purpose for reading. Subjects were university students. In all three studies, they read passages presented one word at a time on a CRT. In Experiment 1, lexical-decision trials were embedded within the text. Lexical-decision stimuli varied by type (repeated words, synonyms, and controls) and by timing of presentation (short versus long delay). Directions to subjects also varied with one-half reading for comprehension and one-half reading for exact wording. Response times were used as the dependent variable. Results found a significant main effect for stimulus type as well as significant interactions for stimulus type and delay and stimulus type and directions. In Experiment 2 synonyms were replaced with homophones of the critical passage items to explore the activation of phonological codes by the subjects. In Experiment 3 the lexical-decision task was presented in place of, rather than after, the critical passage item. Stimulus types were the critical passage item, its homophone, or a control word. Overall, the results of the studies found that activation of semantic codes, but not surface codes, increased over time, and that the purpose for reading influenced the type of code activated.

SEIFERT, COLLEEN M.; MCKOON, GAIL; ABELSON, ROBERT P.; & RATCLIFF, ROGER. Memory connections between thematically similar episodes. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, April 1986, *12*, 220-231.

Reports the results of six experiments that examined the proposition that two episodes of a written passage that share a theme are connected in memory through thematic structure. All subjects were college students, and there were between 8 and 20 subjects in each experiment. Short, six-sentence stories of approximately 80 words were constructed from patterns and goals reflected in common adages. In all odd-numbered experiments, the subjects were given instructions regarding the themes of the stories; in even-numbered experiments, no such instructions were given. The first two experiments utilized a priming procedure in which the priming sentence was from the same story, a story with a similar theme, or a story with a different theme. In Experiments 3 and 4, subjects read two stories with the same or different themes, then read a single test sentence. In the last two experiments, a test sentence followed each story. Each test sentence required the subject to verify whether or not it was true. It was

found that the verification time for a test sentence from one story was decreased when preceded by a thematically similar story when subjects were given instructions to rate the similarity of stories or when the subjects studied the stories extensively. Concludes that while reading an episode, thematic information may be encoded in a manner that leads to activation of similar episodes and formation of connections in memory between episodes, but such encoding is not automatic.

SANOCKI, THOMAS; GOLDMAN, KAREN; WALTZ, JENNIFER; COOK, CAMERON; EPSTEIN, WILLIAM; & ODEN, GREGG C. Interaction of stimulus and contextual information during reading: Identifying words within sentences. *Memory & Cognition*, March 1985, *13*, 145-157.

Assesses the facilitative effects of various sentence contexts on subjects' ability to detect nonwords in a sentence. Between 22 and 36 college students served as subjects in each of the three experiments conducted. Stimuli in all experiments were complete sentences, presented on a CRT in regular or scrambled format. In Experiments 1 and 2, subjects were to identify the item in the sentence that was a nonword. In Experiment 3, subjects were to report only if a sentence did or did not contain a nonword. Sentences in the three experiments varied in degree to which the syntactic and semantic context of the sentence facilitated the prediction of words in the sentence. In Experiment 1, it was found that complete sentence context did significantly improve subjects speed in detecting nonwords. In Experiment 2, it was found that this facilitation was caused by semantic information and nonpredictive syntactic information. The results of Experiment 3 indicated that the amount of facilitation is greater than could be predicted by separate contributions from autonomous word level and sentence level processes. Argues that the results of these experiments are in conflict with the autonomous model of reading and supportive of interactive models of reading.

ERICKSON, LAWRENCE G.; STAHL, STEVEN A.; & RINEHART, STEVEN D. Metacognitive abilities of above and below average readers: Effects of conceptual tempo, passage level, and error type on error detection. *Journal of Reading Behavior*, 1985, *17*(3), 235-252.

Examines the effects of reading ability, passage difficulty, error type, and conceptual tempo (impulsivity/reflectivity) on error detection. Subjects consisted of 122 sixth-grade pupils. An ANOVA design consisting of two reading levels (above and below grade level) × two conceptual tempo categories × three error conditions (no error, nonsense word substitution, and phrase reordering) × two passage levels (third and sixth) was used with repeated measures on the last two factors. In addition, each subject was given a knowledge and purposes of reading interview and asked to make a reading difficulty judgment regarding the two passages that were read. Percentage of correct detections was used as the dependent variable. A number of significant main and interactive effects were found suggesting that conceptual tempo, passage readability, error type, and reading ability all influenced performance. However, no differences were found between good and poor readers or reflectives and impulsives on the metacognitive interview and the difficulty rating.

NORRIS, DENNIS. Comprehension strategies and lexical priming. *Language and Speech*, October-December 1984, *27*, 355-366.

Reports the results of two studies which examine the processing strategies adults use in comprehending sentences. In Experiment 1 a sample of 24 British university students participated in a sentence classification task. Sentences were manipulated so that two levels of reversibility (rearrangeable vs. nonrearrangeable) were crossed with two levels of voice (active vs. passive). Error rates and response latencies served as dependent measures. An ANOVA of the latency data revealed a significant

effect for reversibility, with the rearrangeable strings classified faster, and a significant effect for voice, with passives classified slower than actives. Analysis of the error data found reversibility, but not voice, significant. Experiment 2 followed the same procedures and used the same stimuli with the exception that a nonword was inserted into each sentence to rule out semantic representation. Analysis of the response latencies produced results identical to Experiment 1. Analysis of the error data found a significant main effect for reversibility only when analyzed by materials.

KIRSCH, IRWIN S., & GUTHRIE, JOHN T. Prose comprehension and text search as a function of reading volume. *Reading Research Quarterly,* Spring 1984, *19,* 331-342.

Obtains information on frequently occurring reading tasks among 42 telephone company employees, and uses the results to propose a two-stage information processing model to describe the cognitive operations required to use the reference materials required for their jobs. Subjects were tested individually, using prose comprehension tasks selected from the NAEP's 1970-1971 Reading Assessment Survey and the *Nelson-Denny Reading Test,* and constructed text search tasks requiring individuals to use four manuals to find the information to answer a question. Subjects also participated in a structured interview on their reading and the amount of time spent in text search or prose comprehension activities. Subjects averaged 4 hours a day in prose comprehension or text search activities. Performance on text search and prose comprehension tests correlated at .32, with 10% shared variance. Time spent engaged in text search activities accounted for 32% of the variance with text search tasks and less than 1% with prose comprehension tasks. Time spent in prose comprehension activities accounted for 45% of the variance with prose comprehension tasks and 2% of the variance with text search tasks.

GUINDON, RAYMONDE, & KINTSCH, WALTER. Priming macropropositions: Evidence for the primacy of macropropositions in the memory for text. *Journal of Verbal Learning and Verbal Behavior,* August 1984, *23,* 508-518.

Studies the question of whether readers form macrostructures on their own and not just in response to certain task demands. Two experiments are reported. Experimental subjects in Experiment 1 were two groups of 16 college students each; controls consisted of 21 and 23 college students. In Experiment 1, subjects were presented with 12 paragraphs, each between 32 and 60 words in length and each containing a summarizing statement. Half of the summarizing statements were at the end and half at the beginning of the paragraph. Six pairs of test words followed each text, four from the text and two distractor words. One pair of words was always from the summary statement (macro), one pair from one of the other sentences of the text (micro), one pair from two different sentences of the text (different), and one pair of words were not from the text. Subjects were to identify whether or not the words had appeared in the text. Reaction time and error rates to primed words were collected. In the experimental group, Summary or No-Summary was a between-subjects factor; controls did not read the texts but were tested in the same way as experimentals. Words that belonged to the macrostructure were recognized faster than microstructure words. Micro words were recognized more rapidly than Different words. Experiment 2 used the same materials, but the macrostatements were deleted from paragraphs. Subjects were 32 psychology students. Word pairs tested were the same as in Experiment 1 except that subjects had not seen the Macro words. Macro words had a higher false alarm rate and longer reaction times than thematically related distractor words, while thematically unrelated words gave the smallest false alarm rate and the fastest responses. The authors conclude that subjects form macrostructures during reading as an integral component of the comprehension process.

STANOVICH, KEITH E. Attentional and automatic context effects in reading. In Alan M. Lesgold & Charles A. Perfetti (Eds.) *Interactive Processes in Reading.* Hillsdale, N.J.: Lawrence Erlbaum Associates, 1981, 241-267.

Summarizes nearly all of the author's previous studies on sentence context effects. In the process of reporting the procedures and findings of the studies, the author also displays some of the logical and deductive thinking applied to these findings and summarizes the history of the growth of the knowledge base of sentence context effects.

KINTSCH, WALTER, & KINTSCH, EILEEN. Studies in text comprehension: Toward a model for learning from reading. In Viktor Sarris & Allen Parducci (Eds.) *Perspectives in Psychological Experimentation: Toward the Year 2000.* Hillsdale, N.J.: Lawrence Erlbaum Associates, 1984, 165-176.

Describes the Kintsch and van Dijk model of text comprehension. Indicates and discusses the three components of the model: specifying the processes by which a coherent text base is constructed from individual meaning units, the use of prior knowledge in this process, and macrostructure formation. Describes verbally and schematically how the model works and summarizes evidence for the validity of the model. The final section points out some of the potential future applications of the model, with special attention to possible uses in assessing readability.

TAYLOR, KARL K. Summary writing by young children. *Reading Research Quarterly,* Spring 1986, *21,* 193-208.

Examines, in two studies, how fourth- and fifth-grade pupils write summaries of expository and narrative prose. The purpose of the study was to examine where children do break down in the process of writing a summary of material they have read. The 17 subjects in Experiment 1, while sitting with the experimenter and being video-taped, each read one narrative passage, and two weeks later one expository passage. Subjects wrote a summary of each, and while they were writing the experimenter asked questions about what they were writing and thinking. The written protocol were scored a 1, 2, 3, or 4 by four college composition instructors for each of four categories of criteria established by the author. Experiment 2 was similar, except that the 52 subjects completed the two tasks in group situations; this time the order of the passages was counterbalanced, and the scoring range was expanded from 1-4 to 1-6. Further, subjects were not interviewed about their summaries. Among the numerous findings it was found that scores on the *Gates-MacGinitie Reading Test* did not correlate significantly with ability to find and state the main ideas, that written responses were judged somewhat vague for a general audience, that children tended to write what interested them rather than what was important, and that there was no difference in ability to summarize narrative or expository text.

VAID, JYOTSNA. Numerical size comparisons in a phonologically transparent script. *Perception & Psychophysics,* June 1985, *37,* 592-595.

Compares the performance of 10 bilingual college students from India in an alphabetic script (English) and in a syllabic script (Hindi). Pairs of monosyllabic (in English) numbers were presented as digits, as words in English, and as words in Hindi. Physical size was varied so that the numerically larger number was written physically larger on half the trials and physically smaller on half the trials. Subjects were to state which number was numerically larger and verbal response times were collected. Significant interference was found for digits and for English words; Hindi words showed no significant differences in latency between congruent and incongruent stimuli. The author discusses the lack of interference for Hindi number words in terms of a greater reliance on phonological recoding in phonologically transparent scripts.

GARNER, RUTH; MACREADY, GEORGE B.; & WAGONER, SHIRLEY. Readers' acquisition of the components of the text-lookback strategy. *Journal of Educational Psychology*, April 1984, *76*, 300-309.

Investigates the overt tutoring behaviors of 100 fifth-grade tutors, identified as proficient and less proficient readers by total reading scores on the *California Achievement Test*, to determine the order in which the components of text-lookback strategies are acquired. Tutors tutored 20 third graders chosen for their high proficiency in reading and their capability of feigning strategy deficits. All tutees read an expository text passage orally, and then answered three text-based questions and two reader-based questions. Tutors were told to help the tutee read the paragraph and answer questions. Instances of lookback behavior recorded on a behavior-observation grid were: undifferentiation, or text manipulation. Using an ordering-theoretic procedure, all component pairs were studied to identify relations. A linear acquisition order was hypothesized: undifferentiated reading, text sampling, question differentiation, and text manipulation. This order was tested by a latent class model, with expected frequencies suggesting good support for the posited linear structure for both reader groups.

GUZZETTI, BARBARA J. The reading process in content fields: A psycholinguistic investigation. *American Educational Research Journal*, Fall 1984, *21*, 659-668.

Investigates the reading strategies of 36 high, average, and low ability fifth grade pupils as they attempted to gain meaning from three content passages in science, social studies, and literature texts through the use of syntactic and semantic cue systems. A stratified random sample of 12 pupils at each ability level were selected from six classrooms based on their scores on the *Comprehensive Test of Basic Skills*, Reading. Passages were controlled for order, length, format, and readability. Procedures specified by the *Reading Miscue Inventory* Manual were employed to analyze students' reading strategies across content material. Means were computed that reflected the readers' strengths in producing miscues that were grammatically acceptable, identical in grammatical function, successfully corrected, semantically acceptable, and did not alter the meaning of the content. Means were also computed for each participant's score for retelling the passage. The design employed a 3(ability level) × 3(content areas) × 3(teachers) repeated measures analysis of variance, treating teacher as a fixed factor. Results indicated that all readers were consistent in their use of syntactic and semantic cues to construct meaning; the application of strategies did not vary with the reading content. A significant difference did exist in the retelling scores among content areas, with scores for literature and science passages higher than those for social studies. These differences were consistent across ability level and teacher, as well as consistent with differences in the readers' expressed interest in the material, as derived from student interviews.

RISH-MIDDEL, MARGRET. Expectancy structures in prose reading. In August Flammer & Walter Kintsch (Eds.) *Discourse Processing*. Amsterdam & New York: North-Holland Publishing Company, 1982, 76-86.

Investigates the role of expectancy structures in fairy tales. Two Grimm fairy tales were modified using a story grammar so that both provided an identical structure. The first was presented according to story grammar structure or in a scrambled version; the second was presented in story grammar structure or with the concluding sentence introduced earlier. Both versions of each story contained the same 25 sentences with only presentation position changed. Subjects were 60 college students. Sentences were projected onto a screen, and subjects pushed one of three buttons to activate the next slide. The dependent variable was reaction time. The reading of the well ordered fairy tale was significantly faster than the randomly ordered story, supporting the conclusion that the students' reading was guided by the expectancy structures constructed in the first few sentences of the tale. In the second tale, there was a significant decrease in reaction speed when the concluding sentence occurred in a low hierarchical position according to the story grammar.

SCHNOTZ, WOLFGANG. How do different readers learn with different text organizations? In August Flammer & Walter Kintsch (Eds.) *Discourse Processing.* Amsterdam & New York: North-Holland Publishing Company, 1982, 87-97.

Compares the reading performance of subjects who had prior knowledge of a topic and who were asked to read a 1,079-word text organized by object or organized by aspect. The text was a description of psychoanalysis and behavior therapy. Organization by objects meant organization by events, facts, or opinions. Organization by aspect meant a description of the various facets (or aspects) of the object (e.g., theoretical foundations, therapeutic principles). Each of the aspect and object versions was organized to start once with psychoanalysis and once with behavior therapy. The 20 subjects in the experiment read only one of the four versions. Prior knowledge was assessed by asking subjects to explain a number of concepts about the two topics. Reading performance was assessed by reading time, recall performance, and a true-false test. When text was organized by aspect, learners did integrative as well as comparative processing; when organized by object, only integrative processing was done by all subjects. The author concludes that different text organizations require different processing demands from the reader and interact differently with the reader's prior knowledge.

INHOFF, ALBRECHT WERNER. The effect of factivity on lexical retrieval and postlexical processes during eye fixations in reading. *Journal of Psycholinguistic Research,* January 1985, *14,* 45-56.

Explores readers' online processing of lexical presuppositions. Eye movements of 16 paid adult volunteers were monitored while they read short passages, each containing a factive or a nonfactive verb that was followed by a false complement. Text was presented one line at a time on a screen. With half of the passages, there was a central visual mask which moved in synchrony with the eyes; in the other passages, reading was unimpaired. Factive and nonfactive verbs did not receive differing amounts of fixation time. False complements following factive verbs received longer fixation times than did the same false complements following nonfactive verbs. The author concludes that word characteristics such as factivity are automatically encoded while sentence interpretation requires effort to be completed.

FRAISSE, PAUL. Perceptual processings of words and drawings. In Viktor Sarris and Allen Parducci (Eds.) *Perspectives in Psychological Experimentation. Towards the Year 2000.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1984, 151-163.

Synthesizes the results of a series of experiments, primarily those of the author, carried out between 1960 and 1980 in the area of information processing. In particular, the differences in the processes involved in naming and reading are delineated. Topics addressed are iconic storage, encoding storage, and the organization of responses.

MCDANIEL, MARK A. The role of elaborative and schema processes in story memory. *Memory & Cognition,* January 1984, *12,* 46-51.

Conducts three experiments to examine the effects of deleting letters from words on story recall. There were 21, 32, and 20 subjects in the experiments, respectively, all college students. In all experiments, subjects read passages either with deleted letters or with letters intact. In Experiment 1, subjects read a 373-word story with 72 idea units. Letters were deleted from every third idea unit according to an algorithm. Experiment 2 used the same story, but letters were deleted from only half of the 24 most important and 24 least important idea units. Subjects also were told to read the story from one or the other of two perspectives. Experiment 3 was similar to experiment 2; however, a different story was used and the number of deleted letters was decreased. Subjects in all experiments in the letters deleted condition filled in the deleted letters. All subjects completed a previously unannounced recall task. In Experiment 1, recall was significantly greater for those idea units with deleted letters. In

Experiments 2 and 3, the effects of the deleted letters and the story perspective were additive. That is, subjects recalled more ideas with deleted letters and more ideas related to the perspective they had been given. The interaction between deleted letters and idea importance was not significant, meaning that deleting letters increased recall for both important and less important ideas. The author suggests the results support a model of story memory that incorporates both elaborative-processing and schema-based mechanisms.

MANDLER, GEORGE. The construction and limitation of consciousness. In Viktor Sarris and & Allen Parducci (Eds.) *Perspectives in Psychological Experimentation: Toward the Year 2000.* Hillsdale, N.J.: Lawrence Erlbaum Associates, 1984, 109-126.

Describes the relation between consciousness and schema, traces the development of the term schema, and describes the functions and construction of consciousness. Reviews the topic of the limits of processing capacity by summarizing several studies previously published by the author.

CUSTENBORDER, CATHERINE, & STUCKMAN, RALPH. Shapes, schemata, and comprehension. *Indiana Reading Quarterly,* Winter 1986, *18*(2), 13, 27-32.

Pilots a three-step strategy for activating prior knowledge, reading, and presenting changes in schemata in a visual form. The exploratory work was done with 19 graduate students who were presented with four key words from a fable and asked to write each on a design printed with five shapes. Subjects were then asked for the rationale for placing the words as they did, then read the fable, asked for other important ideas to include, requested to write the original words on the shapes again and add any new words, and asked why they arranged the words as they did. Examples of subjects' responses are presented. Additionally, the procedure was employed with subjects in grades 3 to 8, high school students, and undergraduates. Numbers at each grade level varied from 4 to 45. A table is presented showing the number of key words remaining the same, the number of changed arrangement of shapes, the number of forms added/changed, the number of key words added, and the average number of key words added. These numbers are given for each grade level. Graduate students had the highest average number of key words added (1.95) with eighth graders second (1.8).

BAZERMAN, CHARLES. Physicists reading physics: Schema-laden purposes and purpose-laden schema. *Written Communication,* January 1985, *2,* 3-23.

Reports on the reading processes of seven research physicists. The data were collected by 1) 90- to 250- minute interviews with each, 2) observations of four of the subjects while searching for materials in the library and their subsequent quick first reading of that material, and 3) observations and focused interviews on careful readings of two articles. The seven physicists were all university professors, and represented three different areas of physics: small particle theorists, biophysics, and applied physics. The author defines schema as the researcher's personal maps of the field. A vast amount of data are reported that are related to the purposeful choices made in selecting readings, the schema for making those choices, how personal schemas are modified by the reading, and how readers adapt to information that does not fit their schema. The author finds that the reading processes of the physicists are replete with individual purposes and schema. These schema include not only consensual knowledge about the phenomena being discussed in the reading, but also perceptions as to the most promising lines of current work, methods that are most likely to succeed, and the readers own personal evaluation of the work of others in the field. Finds that the readings selected are often chosen to serve the physicists's direct research needs, and that reading of other research materials is included only if time permits. Finds that schema are formed in accordance with the active – and projected – research purposes of the reader.

PADRÓN, YOLANDA N.; KNIGHT, STEPHANIE L.; & WAXMAN, HERSHOLT C. Analyzing bilingual and monolingual students' perceptions of their reading strategies. *The Reading Teacher,* January 1986, *39,* 430-433.

Compares the cognitive strategies bilingual and monolingual pupils use while reading. Twenty-three bilingual (English and Spanish) and 15 monolingual third- and fifth-grade pupils were interviewed individually, while reading orally, to determine what strategies they used while reading text. Strategies were sorted into 14 categories. Three of the 14 strategies were statistically significant by language group. Monolingual pupils reported that they used concentrating, noting/searching for salient details, and self generated questions significantly more often than did bilingual students. Monolingual pupils also reported using significantly more strategies than bilingual readers.

IV-20 Comprehension research

MOORE, DAVID W., & READENCE, JOHN E. A framework for reading comprehension research. *Journal of Research and Development in Education,* Fall 1983, *17*(1), 12-19.

Presents a framework for categorizing comprehension research into a three-way classification scheme. The classification system, based upon the intent of the researcher, includes the following categories: 1) Description of comprehension processes, 2) Regulation of comprehension processes, and 3) Acquisition of comprehension processes. Under each category, several exemplary studies are reviewed.

CARRITHERS, CAROLINE, & BEVER, THOMAS G. Eye-fixation patterns during reading confirm theories of language comprehension. *Cognitive Science,* April/June 1984, *8,* 157-172.

Reports eye-fixation pattern research supporting a model of language comprehension originally based on the study of speech comprehension.

RYDER, RANDALL JAMES, & HUGHES, MELODY. The effect on text comprehension of word frequency. *Journal of Educational Research,* May/June 1985, *78,* 286-291.

Examines the relation between word difficulty and passage comprehension. Fifth-grade pupils (n = 159) were classified as being of good, average, or low reading ability on the basis of their scores on the reading subtest of the *SRA Achievement Series.* A passage of 360 words from a 5th-grade basal reader was rewritten in a second version with 25% of the substance words replaced with low frequency synonyms. Subjects were randomly assigned to read one version of the passage, and then completed a multiple-choice comprehension test with seven literal and five inferential questions. There were ability differences on both literal and inferential comprehension ($p < .001$), but there were no differences for the two passages.

CHUMBLEY, JAMES I., & BALOTA, DAVID A. A word's meaning affects the decision in lexical decision. *Memory & Cognition,* November 1984, *12,* 590-606.

Investigates the influence of an isolated word's meaning on lexical decision reaction time (RT) in four experiments. The 24 subjects in each experiment were all college students. Target words in all four experiments were 4 exemplars of 36 different categories. Exemplars were orthogonal pairs of high-frequency, low-frequency, high-dominant, and low-dominant words. In Experiment 1, subjects responded with an associate and their RTs were used in a multiple regression analysis with dominance (I.DOM), frequency (LFREQ), length

(LENG), number of dictionary meanings (LMEAN), and number of different associates (#ARSP) as the predictor variables. Experiment 2 assessed lexical decision RT. Included were 194 pronounceable nonwords. Regression analysis indicated that associative RT, from Experiment 1, and LFREQ were the only significant predictors of lexical decision RT. Experiment 3 was the same as the second, except the 194 nonwords were matched in length with the target words. In this regression, all variables except #ARSP predicted RT. Experiment 4 was the same as the first, except subjects only had to pronounce the target word. These RTs correlated significantly with the predictors; therefore, data from Experiments 1 and 2 were reanalyzed with pronunciation RT was the strongest predictor of lexical decision RT (.731 and .796), followed by LFREQ, Associative RT, and LMEAN. Concludes that at least some of the effect of word meaning frequency in lexical decisions is attributable to a decision stage following lexical access.

OMANSON, RICHARD C.; BECK, ISABEL L.; MCKEOWN, MARGARET G,; & PERFETTI, CHARLES A. Comprehension of texts with unfamiliar versus recently taught words: Assessment of alternative models. *Journal of Educational Psychology,* December 1984, *76,* 1253-1268.

Utilizes data from a previous study to test four models concerning the effects of lexical knowledge on comprehension. It is argued that when processing propositions containing unfamiliar words, incomplete representations of the propositions are used rather than propositions in which familiar words are substituted for the unfamiliar words. It is also suggested that propositions containing words which have previously been taught receive additional processing.

OMANSON, RICHARD C.; BECK, ISABEL L.; VOSS, JAMES F.; & MCKEOWN, MARGARET G. The effects of reading lessons on comprehension: A processing description. *Cognition and Instruction,* Winter 1984, *1,* 45-67.

Revises a third grade basal reader directed reading activity (DRA) and compares the comprehension of third graders taught with the revised lesson (RL) and the commercial lesson (CL). Both groups of children read the same 811-word story and both DRAs involved four steps: story preparation, preparing the children to read a silent reading unit of the story (SRU), pictures, and questions following each SRU. The RL added aspects to each step of the CL. At the story preparation stage, the RL added background information about the main topic of the story. At the SRU preparation stage, the RL added a focus on upcoming events and activated knowledge by referring to previously presented background information. The pictures in the story were revised to eliminate detail that conflicted with story content. The RL also revised the post-SRU reading questions in order to help students grasp the plot of the story. additionally, the researchers identified for each statement, question, and picture of the two DRAs, the text propositions that were elucidated. Of the 262 proposition in the story, the RL elucidated 98 and the CL 110, of which 70 were common to both. Subjects were two groups of 24 third graders, each with a mean grade equivalent of 4.1 on the reading subtest of the WRAT. The dependent variable was the number of propositions recalled after completing the RL or CL lesson. Using t-tests, it was found that the two groups did not differ significantly in number of total propositions recalled. The RL group did recall significantly more of the 70 common propositions. Further analysis indicated that points of the DRAs that made direct contact with the story exerted a greater influence on comprehension than points that made only indirect contact. It was also found that the aspects of the RL DRA exerting the greatest influence on comprehension were the post-SRU questions and the story preparation activities.

BAKER, LINDA. Children's effective use of multiple standards for evaluating their comprehension. *Journal of Educational Psychology*, August 1984, *76*, 588-597.

Reports two experiments examining children's ability to apply three different standards for evaluating their understanding. In the first experiment, subjects (n = 53), who were aged 5, 7, and 9 years, were read six short narrative passages dealing with topics and situations familiar to children. Each passage contained two of three types of problems: nonsense words, prior knowledge violations, and internal inconsistencies. Order of presentation of passages was counterbalanced. Each child was administered the passages individually and oral protocols collected. A practice story for each problem type was used prior to data collection. If not all the problems were noted at the first reading, the passage was read again. After the second reading, unidentified problems were pointed out by the experimenter before proceeding to the next passage. Response protocols were scored for problem identification and the application of a standard of lexical consistency, external consistency, or internal consistency. Older children identified more problems than younger children ($p < .001$), and internal inconsistencies were least likely to be identified ($p < .001$). The internal consistency standard was applied less frequently than the lexical consistency standard, which was applied less frequently than the external consistency standard ($p < .001$). In the second experiment, 11-year-old girls (n = 18) read the same materials in similar conditions. Besides reading the passages, in contrast to hearing them read, they were asked if any of the problem types were easier or harder to identify. Fewer internal inconsistencies were identified ($p < .001$), and subjects generally regarded them as the most difficult to identify, and lexical inconsistencies as the easiest.

BIEGER, GEORGE R., & DUNN, BRUCE R. A comparison of the sensitivity of two prose analysis models to developmental differences in free recall of text. *Discourse Processes*, July-September 1984, *7*, 257-274.

Examines the sensitivity of two prose analysis models to the developmental differences in children's recall. Model 1 focuses on the semantic relationships within an idea unit, while Model 2 more clearly specifies the interrelation among large text elements. Fourth-, fifth-, and sixth-grade pupils (n = 212), who were classified as average or below-average readers on the basis of teacher evaluation, read two passages adapted from third-grade textbooks. Each passage was read twice, and children's written recalls collected. Recalls were scored using both models by two judges. Inter-rater agreement was 90% or higher. Results from the two passages were analyzed separately. On one passage the number of idea units recalled using model 2 was affected by grade, reading ability, and hierarchical level in the analysis (all $p < .001$). There was also a three-way interaction of these factors ($p < .01$). Using Model 1 the main effects were similarly significant, with a three-way interaction of level, ability, and sex ($p < .01$). On the second passage, similar main effects were found, with a three-way interaction of level, ability, and sex for Model 2 ($p < .05$). The analyses using Model 2 suggested that older good readers recall certain idea units better than poor readers, and younger good readers. It was concluded that the second model was more sensitive to developmental differences in prose recall.

ROLLER, CATHY M. The influence of normative relative importance on the perceived importance of information. *Journal of Reading Behavior*, 1985, *17*(4), 347-367.

Replicates a previous study which investigates which factors make information important. Training materials were developed to create a new schema for a fictitious insect family. A sample of 48 university student volunteers were randomly assigned to one of three experimental conditions or a control. All treatments consisted of a training task, an importance rating task, and a paragraph writing task. Experimental groups differed in the directions

as to what they were to pay attention to (general information vs. more specific information). Four dependent measures were used: two importance rating scores and two paragraph writing scores. Planned orthogonal contrasts were made to test hypotheses. For importance ratings, four of the six contrasts were significant, indicating that goal-relatedness influenced perceived importance. For paragraph writing data, four of the six contrasts were significant; however, the four differed from those of the importance ratings. Overall results indicated that all three examined factors (category membership, normative relative importance, and goal-relatedness) influenced perceived importance of information.

McCABE, ALLYSSA, & PETERSON, CAROLE. WHAT MAKES A GOOD STORY? *Journal of Psycholinguistic Research*, November 1984, *13*, 457-480.

Inspects stories rated by adults as good compared with other stories they rated as bad to determine how these ratings reflect the story's structural sophistication as conceptualized by three methods for analyzing a story's structure: 1) episodic or story grammar approaches, emphasizing stories as problem-solving episodes with goals and activities to achieve them; 2) high point structure, emphasizing affective information and viewing stories as organized around emotional high points or crisis events; and 3) dependency analysis, emphasizing linguistic complexity and, in particular, the way propositions are related to each other through a relationship of either coordination or subordination. Narratives (n = 288) produced by 96 children, aged $3\frac{1}{2}$ to $9\frac{1}{2}$, were scored according to how well they realized good structure in each system, and the three scoring systems were relatively independent of each other. Thirty-five Canadian adults, 28 of whom were university students in English or psychology and the rest faculty members, were asked to rate the children's personal narratives in terms of how good a story each was, and these ratings were compared with how the stories were scored in terms of all three systems. None of the systems completely explained the subjective quality ratings; rather, all three seemed to contribute in different ways to subjects' ratings, with the best narratives generally deemed sophisticated and complex in at least two of the three systems.

BALDWIN, R. SCOTT; PELEG-BRUCKNER, ZIVA; & McCLINTOCK, ANN H. Effects of topic interest and prior knowledge on reading comprehension. *Reading Research Quarterly*, Summer 1985, *20*, 497-504.

Assesses the differential effects of topic interest and prior knowledge on reading comprehension. Subjects were 52 seventh- and eighth-grade pupils of above-average reading ability. An interest inventory and a prior knowledge test were used to assess interest and knowledge regarding 10 preselected topics. On the basis of these measures, each subject was assigned four 300-word passages to read, one each in the following categories: 1) high prior knowledge/high topic interest; 2) low prior knowledge/low topic interest; high prior knowledge/low topic interest; and 4) low prior knowledge/high topic interest. Comprehension for each passage was assessed with a 10-item multiple-choice test. Data were analyzed in a 2 × 2 × 2 (sex × prior knowledge × topic interest) analysis of variance with repeated measure on prior knowledge and topic interest. Significant effects were found for passages of high prior knowledge and passages of high topic interest. A significant second-order interaction (sex × prior knowledge × topic interest) was also found, revealing that for boys comprehension was significantly higher on passages with high topic interest and high prior knowledge, but for girls comprehension was higher on passages with high prior knowledge but not for passages with high topic interest.

FEELEY, JOAN T.; WEPNER, SHELLEY B.; & WILLGING, BARBARA. The effects of background information on standardized test scores. *Reading World*, May 1985, *24*(4), 24-29.

Assesses the influence of background knowledge on freshman college students' performance on the *Nelson-Denny Reading Test* (NDRT). Thirty-five students were randomly assigned to experimental or control conditions, 19 in one section, and 16 in the other. Both groups received supplementary readings for skills practice, with the experimental section reading articles based on the topics that were found in the NDRT. At the close of the semester, subjects completed a 12-item Prior Knowledge Inventory designed to measure students' perceived knowledge of the topics included in the NDRT, before they took it as a posttest. A statistically significant interaction between treatment and trials indicated better test performance for the experimental group receiving the articles based on NDRT topics. No significant differences were found on the prior knowledge instrument.

ALVERMANN, DONNA E.; SMITH, LYNN C.; & READENCE, JOHN E. Prior knowledge activation and the comprehension of compatible and incompatible text. *Reading Research Quarterly*, Summer 1985, *20*, 420-436.

Examines the influence of prior knowledge activation when 52 sixth-grade pupils of average reading ability (25 females and 27 males) read two naturally-occurring science texts and completed 10-item multiple-choice tests and written free recalls. One passage was judged compatible with prior knowledge, and the other incompatible. A prereading activation measure asked the subjects to write down what they knew about the topic based on past experience and knowledge. A post-session forced-choice questionnaire examined subjects' perceptions of passage difficulty, topic familiarity, and topic interest. Three open-ended questions asked for suggestions for improving science texts, and clarified whether writing everything they knew before reading was helpful for the recall and multiple-choice tasks. Subjects activating prior knowledge while reading incompatible text allowed previous knowledge and experiences to override text information. No differences were found in performances between activators and nonactivators on compatible text. Postsession questionnaire responses suggested that writing before reading helped in free recalls and on multiple-choice tests, that treatment groups did not differ in perceptions of task difficulty or interest, but did differ on familiarity for the passages.

KINTSCH, WALTER, & KINTSCH, EILEEN. Studies in text comprehension: Toward a model for learning from reading. In Viktor Sarris & Allen Parducci (Eds.) *Perspectives in Psychological Experimentation: Towards the Year 2000*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1984, 165-176.

Presents a framework for a model of text comprehension, notes how the model works, and cites evidence for the validity of the model. The model proposed concentrates on three components of the comprehension process: 1) the processes by which a coherent text base is constructed from the individual meaning units; 2) the use of knowledge in this process, how people utilize their knowledge to construct a text base, and how the knowledge brought to the text becomes modified by the new material; and 3) how readers develop a notion about the gist of a text. Most of the research base used to support the literature comes from the authors' own works.

RYE, JAMES. Cloze and intersentential constraint. *Journal of Research in Reading*, September 1984, *7*, 113-122.

Examines the construct validity of the cloze procedure by investigating the sensitivity of cloze to intersentential constraint. A randomized block design was used to compare the cloze performance of two groups of 16- to 19-year-olds who had been previously matched on

the basis of a 40-item multiple-choice comprehension test. The 70 students were studying for various examinations in English at a British College of Further Education. One group completed a 109-item cloze test in natural order while the second group was given the same material with sentence order randomized to destroy the intersentential constraints. Timing and test directions were also modified to prevent subjects taking the modified cloze test from reconstructing intersentential constraints. Results of a two-way analysis of variance revealed significantly better performance for students taking the natural order cloze test. A secondary analysis found no difference between content and function words in relative sensitivity to intersentential constraint.

RYE, JAMES. Are cloze items sensitive to constraints across sentences? A review. *Journal of Research in Reading*, September 1985, *8*, 94-105.

Reviews four types of studies related to the sensitivity of cloze to intersentential constraints: factor analytical and correlational studies; studies which varied the length of available context; studies which varied presentation mode; and studies which varied cohesive context. Possible explanations for conflicting results among the studies are presented, and recommendations are made for establishing testing conditions likely to encourage the use of intersentential constraints.

WEST, RICHARD F.; STANOVICH, KEITH E.; FEEMAN, DOROTHY J.; & CUNNINGHAM, ANNE E. The effect of sentence context on word recognition in second- and sixth-grade children. *Reading Research Quarterly*, Fall 1983, *19*, 6-15.

Studies the influence of sentence context on the word recognition performance of 16 second-grade children and 32 sixth-grade children. Second graders had a mean grade equivalent of 4.6 on the Reading Survey section of the *Metropolitan Achievement Tests*, Primary, and sixth graders had a mean grade equivalent of 8.8 on the Intermediate level. Subjects named words preceded by congruous, neutral, or incongruous context which were either one or three sentences long, drawn from second-grade reading materials. Congruous contexts were formed by presenting target words with their corresponding contexts. Incongruous contexts were formed by presenting target words with opposites from the texts. Stimuli were presented on a CRT monitor, with timing controlled by the experimenter. Each word was seen twice as often under congruous context conditions as under incongruous or neutral context. Both groups demonstrated contextual facilitation and contextual inhibition on naming time. Effects were not increased by presenting three prior sentences, rather than one. Context effects were stronger for the second-grade readers.

KEENAN, STACEY. Effects of chunking and line length on reading efficiency. *Visible Language*, Winter 1984, *18*, 61-80.

Investigates whether text altered by "chunking" one phrase per line aids in the pupils' comprehension and proofreading. The chunked format was produced by a computer program that used syntactic rules to determine chunk boundaries. Subjects were 24 volunteers from the clerical staff of AT&T Bell Laboratory (Female = 23; Male = 1). Easy and difficult passages, with readability levels of 4.8 and 16.8, respectively, were presented in equivalent formats (with line length held constant) either on paper or on video display terminals. Contrary to expectations, the chunked format was read significantly more slowly than the standard format in all tasks, at two difficulty levels, and with both screen and paper presentation. The research hypothesizes that line-length variability could account for the results and because chunking increases line-length variability, it can interfere with reading.

GIORA, RACHEL. Segmentation and segment cohesion: On the thematic organization of the text. *Text*, 1983, *3*(2), 155-181.

Argues for extending the notion of cohesion beyond the sentence level and summarizes two experiments related to paragraph final position. In the first, subjects read two narrative passages, differing only in the order of sentences. In the first passage, the final sentence conveyed dominant information; in the other, that information appeared in an earlier position which did not disrupt the plausible presentation of the narrative events. Most of the subjects (no information on subjects presented) preferred the passage in which dominant/foreground information appeared in the final position. For Experiment 2, subjects were given a set of four 2-paragraph passages and asked for their preferences as to natural paragraph sequence. This time 81.5% of subjects preferred the passages in which the second paragraph discussed information which terminated the first paragraph. The article attempts to demonstrate that segment final position is a parameter determining informationally foreground status.

OAKHILL, JANE. Inferential and memory skills in children's comprehension of stories. *British Journal of Educational Psychology*, February 1984, *54*, 31-39.

Compares 24 British seven- and eight-year-olds similar on tests of word recognition and reading vocabulary but differentiated by their ability at text comprehension on the *Neale Analysis of Reading Ability*. Children read four short stories and answered questions that were either text based (literal) or inferential. Skilled readers performed better than nonskilled readers on both question types when questions were asked immediately after reading and text wasn't present. When text was present to use, the less skilled group performed as well as the skilled group on literal questions, but were still less efficient on questions requiring inferences.

BLACHOWICZ, CAMILLE L.Z. Reading and remembering: A constructivist perspective on reading comprehension and its disorders. *Visible Language*, Autumn 1984, *18*, 391-403.

Cites selected recent research supporting a schema-theoretic perspective on reading comprehension. The article looks briefly at research on disorders of comprehension, the role of prior knowledge, and metacognition.

FISCHLER, IRA; BLOOM, PAUL A.; CHILDERS, DONALD G.; ROUCOS, SALIM E.; & PERRY, JR., NATHAN W. Brain potentials related to stages of sentence verification. *Psychophysiology*, July 1983, *20*, 400-409.

Studies the event-related potentials (ERPs) waveforms of eight adult males who viewed simple sentences. Sentences were true affirmative (TA), true negative (TN), false affirmative (FA), and false negative (FN). Sentences of negative form produced slower responses; for affirmative sentences, false responses were slower, while for negative sentences true responses were slower. For affirmatives, ERPs for false sentences were more negative than those for true sentences in the region from about 250 to 450 msec after the presentation of the final word in the sentence. For negatives, true statements were associated with the ERP negativity. It was concluded that the pattern of response latencies and ERPs together support a model of sentence comprehension in which negatives are dealt with only after the proposition to be negated is comprehended.

VAN DEN BROEK, PAUL, & TRABASSO, TOM. Causal networks versus goal hierarchies in summarizing text. *Discourse Processes*, January-March 1986, *9*, 1-15.

Discusses and contrasts two alternative approaches to story understanding: hierarchical and causal. Subjects in the experiment were 16 adult students at the University of Leiden, the Netherlands. The three stories read were written in Dutch. Each story consisted of 12

sentences. Goal statements across versions of the stories were varied in their hierarchical level, as were the causal-chain status and the number of direct causal connections for goal or other statements. There were two versions of each story. In the first, statement 5 contained a subordinate goal and statement 6 contained a superordinate goal. In Version 2 these roles were reversed. Subjects read each story in one version or the other, and wrote a short summary. When the number of causal connections and the causal-chain status were held constant, the hierarchical level had no significant effect. As the frequency of causal connections increased, the summarization of both goal and other statements increased. Concludes that the importance of a statement in a passage is the result of causal reasoning during comprehension.

CORBETT, ALBERT T. Prenominal adjectives and the disambiguation of anaphoric nouns. *Journal of Verbal Learning and Verbal Behavior*, December 1984, *23*, 683-695.

Describes two experiments examining the use of adjective-category anaphoric phrases. Subjects were paid to participate and numbered 16 and 36 (no age/grade information given). For Experiment 1, four filler and eight test paragraphs were constructed, all between six or seven sentences and 69 to 97 words in length. An adjective-category noun phrase appeared near the end of each test paragraph with an antecedent from one to four sentences prior to the anaphoric reference. A nonantecedent distractor paired with a different adjective was also included either prior to or after the antecedent. For each paragraph, a second version was constructed by deleting the clause or noun phrase containing the antecedent. Words appeared on a screen one at a time, and a true-false comprehension question followed each paragraph. Mean reading time was collected for each adjective-category anaphoric reference along with mean single-word reading time for other words in the paragraph, and paragraph reading times. A ratio of the eight anaphoric reference reading times to overall mean reading time for the eight paragraphs was computed. Experiment 2 was similar but used 16 test paragraphs and also manipulated the strength of association between the adjective-category phrase and the antecedents and distractors. The presence of a nonantecedent member of the anaphoric category slowed processing time for the reference. Typicality interacted with the interference effect. When the antecedent was a highly typical example of the adjective-category phrase and the distractor was not, no interference effect was observed.

RYAN, MICHAEL P. Monitoring text comprehension: Individual differences in epistemological standards. *Journal of Educational Psychology*, April 1984, *76*, 248-258.

Attempts to determine the criteria used by 90 college students in comprehending text and to relate these to grades. Subjects were first given a 50-statement behavior list of attitudes related to academic performance in college. Seven of the items were used to classify students as dualists (fact-oriented) or relativists (context-oriented) in their conception of knowledge. They were then asked to write for 15 minutes each in response to four questions describing their note-taking, paper-writing, question-answering, and textbook-reading strategies. Protocols were classified into knowledge and comprehension/application categories. Course grades in a psychology class were determined by performance on a series of tests. Fifteen different kinds of monitoring criteria were identified. Comprehension criteria reported by dualists more often fell into the comprehension/application categories. Of the 36 students reporting only knowledge criteria, 26% earned grades of A or B. Of the 53 students reporting at least one comprehension/application criterion, 47% earned a grade of A or B. Subjects reporting multiple comprehension monitoring criteria received better grades than did subjects reporting the use of only one criterion.

SCHWANTES, FREDERICK M. Expectancy, integration, and interactional processes: Age differences in the nature of words affected by sentence context. *Journal of Experimental Child Psychology,* April 1985, *39,* 212-229.

Reports the results of two studies which examine developmental differences in the use of sentence context. In both studies third-grade pupils were compared with college students. In Experiment 1, nine-word sentences were presented, followed by one of four types of target words: best completions, less likely completions, related associates, and anomalous completions. Some of the target words were also presented in a no-context condition. Response latency served as the dependent variable. A 2 (grade) by 2 (context vs. no-context) by 4 (target conditions) ANOVA produced a significant triple interaction. Follow-up analyses examined the differential effect of context between target conditions within each grade level and the differential magnitude of context effects between grade levels within each target condition. Experiment 2 modified the target words to focus on semantically acceptable words. Overall, the two studies found greater facilitation from context for third graders, relative to adults, for best completion words. However, age differences were negligible for associatively related target words that were semantically unacceptable. Semantic acceptability had a much greater influence on the third grade subjects.

GEVA, ESTHER, & RYAN, ELLEN BOUCHARD. Use of conjunctions in expository texts by skilled and less skilled readers. *Journal of Reading Behavior,* 1985, *17*(4), 331-346.

Examines the influence of conjunctions on the comprehension of expository text. A sample of 46 grade 5 and 47 grade 7 pupils were stratified as low, average, and high readers. A repeated measures design was employed in which each subject read short expository texts under each of four conjunction conditions: implicit (without conjunctions), explicit (with conjunctions), highlighted (with conjunctions underlined and capitalized), and deep (a multiple-choice cloze condition in which the reader supplied the conjunction). True-false structure items assessed relationships between propositions and within-sentence details. Data analyses revealed significant effects for grade level (grade 7 pupils scored higher than grade 5 pupils), for reading level (high > average > low), for information type (children scored higher on detail questions than interpropositional relations), and questions type (pupils tended to say "true" more often than "false"). A number of significant interactions were also found. Analysis of the conjunction manipulation effects yielded several significant main effects and significant interactions. In general, comprehension was enhanced when readers' attention was directed explicitly to the linguistic markers of logical cohesive relations in texts through the use of highlighting.

SNYDER, VIVIAN, & JACKSON, EVELYN. Developmental college students' understanding of logical thought units. *Forum for Reading,* Fall/Winter 1985, 18-22.

Reports an informal study to determine how college students would mark a passage when asked to put slashes between meaningful phrases prior to speed reading training in which they would be taught to read in thought units. Participants were 25 students enrolled in a study skills class. Students in this class had an average ACT composite score of 11.6. Students were asked to read a 400-word passage after a 10-minute lecture on the advantage of reading in thought units. While reading the passage they were to mark slashes at the end of each meaningful phrase. Seven students failed to follow directions, nine marked the passages as the experimenters would have, three marked too few phrases and six marked far too few phrases.

WILLIAMS, JOHANNA P.; TAYLOR, MARAVENE BETH; & DE CANI, JOHN S. Constructing macrostructure for expository text. *Journal of Educational Psychology*, December 1984, *76*, 1065-1075.

Examines third-, fifth-, and seventh-grade pupils and adults as they read short expository paragraphs and performed tasks requiring the production of macrostructures for a series of texts: choosing the best title, writing a summary sentence, and writing an additional sentence that would follow a stated sentence for each paragraph. Paragraphs read were either well structured or contained anomalous sentences not related to the text's informational hierarchy. Subjects could not look back at the materials as they completed the macrostructure tasks. In Experiment 1, subjects were 36 pupils at each grade level and 36 adults. In Experiment 2, a replication of part of Experiment 1, subjects were 24 undergraduate students. Task was an important factor at all ages, with performance improving with age. The title task was easiest, followed by the summarizing task, and the next-sentence task. At the adult level, performance on the summarizing task and the title task was similar. Adult performance reflected the presence of anomalous information, especially on the next-sentence task. Children's performance did not change with the presence of anomalous information.

ROLLER, CATHY M. The effects of reader- and text-based factors on writers' and readers' perceptions of the importance of information in expository prose. *Reading Research Quarterly*, Summer 1985, *20*, 437-457.

Reports the results of four studies conducted to examine factors that contribute to the relative importance of information in expository text. Subjects were college students enrolled in psychology courses. Specially designed materials and training tasks on fictitious insects were formulated to insure new schema formation. Experiment 1 assessed the influence of category membership, normative importance, and goal-relatedness on the perception of an information unit's importance. Analysis of the data found category membership and goal-relatedness, but not normative importance, influenced importance ratings. In Experiment 2, subjects from Experiment 1 were asked to convey information in writing that was learned from reading the experimental materials. Findings indicated that the relation between category membership and importance influenced writers. Experiments 3 and 4 offered partial replications of Experiments 1 and 2. In Experiment 3, which used an importance rating task, reader-based factors, not text-based factors, influenced perceptions of importance. However, in Experiment 4 which employed a summary writing task, text-based factors were found to be more important than reader-based factors.

MAYER, RICHARD E. Aids to text comprehension. *Educational Psychologist*, Winter 1984, *19*, 30-42.

Examines three kinds of aids to text comprehension: aids for selecting information, such as objectives or underlining; aids for building internal connections, such as headings or notetaking; and aids for building external connections, such as advance organizers; and reviews research to suggest how these aids affect cognitive processing during reading, especially during reading of expository text. Recommendations are suggested for when each type of aid should be used, and ideas for future research are included.

SHANNON, DARLA. Use of top-level structure in expository text: An open letter to a high school teacher. *Journal of Reading*, February 1985, *28*, 426-431.

Reviews research on students' use of a text's top-level structure (the major points in an outline of a text) to formulate the gist of a text and to preview for an author's major ideas and purposes. Training studies where students were given systematic instruction in reproducing the top-level structures of texts are also reported. Written in the form of a letter to a teacher, the review suggests that text top-level structure is an area meriting attention by researchers and educators.

SMITH, SHARON PUGH. Comprehension and comprehension monitoring by experienced readers. *Journal of Reading*, January 1985, *28*, 292-300.

Explores strategies for comprehension monitoring when nine mature and experienced readers are asked to read a difficult physics text, to keep an account of how they achieved the level of comprehension for which they settled, and to write an analysis of their introspective account. The subjects' listing of main ideas and their schematic map of the article's information served as measures of comprehension. Pre- and posttests assessed prior knowledge of topic and subject area. Subjects were given three weeks to complete the task, using any additional resources but fellow students for comprehending the information. These experienced readers controlled their own reading process in idiosyncratic ways. Many engaged in knowledge construction activities such as drawing diagrams, constructing glossaries, taking elaborate notes, reading other sources, writing summaries, and hypothesis testing. When the distance between the readers' background and the text's information was wide, subjects were not confident of their knowledge base and felt their comprehension would be considered inadequate. When subjects did not feel that they owned the task, they engaged in less across-text strategies and much less use of multiple sources to clarify information. Subjects were able to "bootstrap" (build a structure of meaning within the text) without increasing their knowledge of the subject matter.

GOLDSMITH, EVELYN. *Research into Illustration: An Approach and a Review.* Cambridge University Press, 1984.

Abstracts a large body of the research literature dealing with research into illustrations. Part I of the book is divided into two chapters, the first on factors affecting the decision to use illustrations, and the second on the place of illustrations in the teaching of reading. Both chapters are set up to first present citation information and summaries of principal studies, then list other relevant works, and finally discusses the body of literature and draws conclusions based on the research. The second and larger section of the book, Part II, discusses factors that affect the comprehensibility of illustrations. The author presents a model for the analysis of illustrations in which 12 elements are identified. These elements provide a structure within which an illustration can be evaluated in terms of information accessibility. A chapter is devoted to research relevant to each of the 12 elements.

RASINSKI, TIMOTHY V. Picture this: Using imagery as a reading comprehension strategy. *Reading Horizons*, Summer 1985, *25*, 280-288.

Reviews selected research on imagery as a strategy for aiding reading comprehension and suggests classroom procedures to connect language to images and images to language. Limitations of imagery strategies are also considered.

LASISI, MONICA J., & AKANBI, KUNLE. Effects of whole/partial pictures on interpretative comprehension at the upper primary level. *Reading Improvement*, Winter 1984, *21*, 250-261.

Investigates the effects of whole and partial pictures on the inferential comprehension of 208 sixth-grade pupils in Ile-Ife, Nigeria. Children were assigned to one of three treatment groups or a control group. Each of the groups was asked to read a 1098-word passage extracted from a piece of children's literature. A text-embedded black and white illustration was used wholly or partially to determine the effect of pictures on comprehension. In one partial picture condition, a dynamic event was removed from the picture; in the other partial condition, a static group of characters was removed. The control group was given an unrelated illustration. Four multiple-choice questions were administered after silent reading to determine interpretative ability. Results showed a significant difference between comprehension scores of the groups exposed to the whole picture and to the unrelated picture, favoring the whole picture group. In addition, comparisons favored whole picture over the dynamic-dele-

tion partial picture condition. There was no significant difference between the whole picture and the static partial picture group. There was, however, a difference favoring the static partial picture group over the dynamic partial picture and the placebo groups. The researchers argue that a static partial picture may contribute to the interpretative comprehension of prose in that static deletions evoke internal imagery and induce literary interpretation, whereas dynamic partial pictures may distract from finer points of prose interpretation.

RUSTED, JENNIFER, & HODGSON, SANDRA. Evaluating the picture facilitation effect in children's recall of written texts. *British Journal of Educational Psychology*, November 1985, *55*, 288-294.

Contrasts the effects on comprehension of reading passages with and without pictures. Subjects in the experiment had an average age of 9-7, and were 20 boys and 20 girls from a middle school in Sussex, Great Britian. Six pairs of passages, varying in length from 46 to 66 words, were constructed for this study, one fictitious and one factual passage per pair, each written about each of six unusual animals. All passages contained eight critical facts about the creature, four physical features that could be portrayed pictorially, and four nonpictorial features concerning living and eating habits. Illustrations accompanying the passages were colored, line drawings of the appropriate creature. Half the subjects read the six factual passages, three with and three without pictures; the other half read the fictitious passages within the same conditions. Half of each group read the illustrated passages first, while the other half read the unillustrated passages first. After reading each passage orally, comprehension was assessed by number of the eight critical features reported in post-reading oral recall. Recall data were analyzed using a three-way split plot ANOVA and t-tests for planned comparisons. There was no significant difference in recall of story or factual passages. Both other main effects were significant; however, pictures facilitated recall and pictorial features were better recalled than nonpictorial features. The interaction between pictures and type of passage was also significant; pictures facilitated recall of factual passages, but did not facilitate recall of fictitious passages.

MOORE, PHILLIP J., & SKINNER, MICHAEL J. The effects of illustrations on children's comprehension of abstract and concrete passages. *Journal of Research in Reading*, February 1985, *8*, 45-56.

Investigates the effects of illustrations on 11-year-olds' comprehension of abstract and concrete passages. Subjects were 55 sixth-grade Australian children. Reading achievement was assessed with the *GAP Reading Comprehension Test*, and the average reading age of the group was 10-5. The group was described as relatively poor readers. Two 400-word, narrative passages were selected, one with sixth-grade readability and one with seventh. Each passage was accompanied by seven comprehension questions: three literal and four inferential. One passage had been rated by 11 adult judges as concrete, the other as abstract. One black and white illustration was developed for each story and was placed at the end of the story for those in the picture condition. Subjects in the picture condition were instructed to pay attention to the picture as it might help them comprehend the story. ANOVA results found that the picture facilitated total and inferential comprehension for the abstract passage, but not literal comprehension. For the concrete passage, the picture did not facilitate comprehension at all. A more detailed analysis showed that both text-based and script-based inferences were facilitated by the picture in the abstract passage.

IV-21 Research design

SUMMERS, EDWARD G. A review and application of citation analysis methodology to reading research journal literature. *Journal of the American Society for Information Science*, 1984, *35*(6), 332-343.

Applies citation analysis methodology in identifying highly cited core journals and indicating the disciplinary structure and interrelations of journals reporting reading research. Citation data from the 1980 *Journal Citation Reports* were used to generate a journal size-independent Reading Research Impact Factor as a criterion for selecting high impact journals. References from seven citing journals were used to produce a set of 92 candidate core list journals. After four iterations, a final diverse set of 27 highly cited journals emerged including publications from reading, education, educational psychology, educational research, language, cognitive psychology, general psychology, developmental and child psychology, and experimental psychology. Six journals from the area of communication were added to complete the list. Analysis of the 10-year temporal distribution of recent citations from 25 of the highly cited journals pinpointed the immediacy effect of reading research as being on the borderline between hard and soft science with such research exhibiting a strong flavor from cognate areas of psychology. Problems and limitations related to citation analyses are discussed.

CARPENTER, PATRICIA A. The influence of methodologies on psycholinguistic research: A regression to the Whorfian hypothesis. In David E. Kieras & Marcel A. Just (Eds.) *New Methods in Reading Comprehension Research*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1984, 3-11.

Discusses how research methodologies influence the research on reading comprehension. An analogy is drawn with the use of analysis of variance and how it influenced the research in experimental psychology. The possible effect of multiple regression techniques on research in reading comprehension is discussed. Noted in particular is the need to consider the usefulness and limitations of various statistical tools and paradigms.

V. The teaching of reading

V-1 Comparative studies

DOWNING, JOHN. Reading research and instruction in the USSR. *The Reading Teacher*, March 1984, *37*, 598-603.

Presents an overview of research and instruction in the reading in the USSR. In 1919, almost 90% of the population was illiterate; by 1934, it was reported that more than 90% could read and write in their mother tongue. Today's educational system, as in the past, retains the feature of centralization of control that has resulted in a high degree of uniformity throughout Russia. With this there has been displayed a consistent concern for children's conceptual development in learning to read. For over a century, Russian authors have asserted that children must develop the concepts underlying the structure of their speech and writing. The history of the Russian debate on reading falls into three periods: prerevolutionary, postrevolutionary experimentation, and establishment of centralized control.

V-2 Status of reading instruction

BEECH, MARTHA C.; SMILEY, LYDIA R.; & D'ZAMKO, MARY E. Serving the learning disabled college student in Florida. *Reading Improvement*, Spring 1986, *23*, 16-20.

Catalogs the existence of services for the learning disabled college student through the medium of a telephone survey of 63 colleges and universities in Florida. Institutions were divided into five types: state universities, private universities, private four-year colleges, public two-year colleges, and private two-year colleges. A total of 80% of these institutions reported that they could assist such enrollees. Half of the respondents identified specific programs which were available. Many of the smaller colleges reported that support services such as remedial classes and counseling were available to all students, and this meant the learning disabled as well as others. All state universities and larger private universities reported specific programs where students could obtain assistance. Only nine private colleges and universities reported that no provisions were available for the learning disabled. Services identified in the survey included assessment, tutoring, remedial instruction, study skills instruction, and personal and career counseling. Accommodations in regular courses included oral examinations, exam proctors, extended time limits, individual conferences, and taped texts.

ANDERSON, RICHARD C.; HIEBERT, ELFRIEDA H.; SCOTT, JUDITH A.; & WILKINSON, IAN A.G. (Eds.) *Becoming a Nation of Readers: The Report of the Commission on Reading*. Washington, DC: The National Institute of Education, 1985.

Summarizes and synthesizes selected research literature in several areas and makes recommendations for reading instruction. The particular focus is on beginning reading and the comprehension of language. Chapter headings include the following: What is reading? Emerging literacy, Extending literacy, The teacher and the classroom, Testing and reading, and Teacher education and professional development. Based on the literature reviewed, a listing of 17 specific recommendations are presented.

MANGIERI, JOHN N., & MADIGAN, FAYE. Reading for gifted students: What schools are doing. *Roeper Review*, November 1984, *7*, 68-70.

Sends a 14-item questionnaire to 150 school districts in the United States to identify what schools are doing in teaching reading to gifted children. Five significant findings resulted: 1) enrichment is a key focus of reading programs for the gifted; 2) teacher recommendations were of primary importance in selecting children for a gifted program; 3) gifted children used the same basal series as nongifted; 4) the majority of reading instruction for the gifted was supplied by classroom teachers; and 5) communication between schools and parents of gifted children was high.

V-3 Early reading

MASONHEIMER, PATRICIA E.; DRUM, PRISCILLA A.; & EHRI, LINNEA C. Does environmental print identification lead children into word reading? *Journal of Reading Behavior*, 1984, *16*(4), 257-271.

Presents results of a survey and two experiments examining the print reading skills of preschoolers who were selected for their ability to read signs and labels in their environment. In the survey 11 two-year-olds, 90 three-years-olds, 91 four-year-olds, and 36 five-year-olds, all attending preschools offering a variety of reading related opportunities, were asked to identify 21 alphabetic labels or signs deemed to be familiar to preschoolers. Children were shown colored photographs of labels in their context and asked what it said. The 10 most frequently identified signs and labels were then used in Experiments 1 and 2. For Experiment

1, the 102 children in the survey who could identify at least 8 of the 10 most frequently read labels served as subjects. Children were presented with the labels in context and alone and in color and in black and white. Where a label was accompanied by a logo, children saw the label in full context, with its logo only, and alone. In addition, those children who could read four or more of 10 primer level words were also given the *Slosson Oral Reading Test* and a letter identification test. On the word task, 89 children identified no words, 3 read one word, 4 read two words, and 6 read eight or nine words plus several of the Slosson words correctly. For the signs and labels presented in manuscript, 96 children read no more than four words correctly while most of the readers identified all of the signs. Labels tended to be accurately identified in context, but not without context. More labels were read correctly with full contexts than with logos only, and more were read correctly with logo contexts than with labels alone. Color did not aid in identification. Ninety-two of the same subjects served three months later in Experiment 2. Six labels having logos were used. Six altered versions of these label-logo combinations were formed in which either an initial, medial, or final letter was replaced with another letter having different features. Altered letters were printed in the same style as other letters in the label and children were asked to read the sign and to indicate anything strange or wrong about the picture. Readers were able to identify letter errors but prereaders tended to ignore the letters.

GOETZ, ELIZABETH M.; SCOTT, L. CAROL; & BRENNER, EDWARD P. The acquisition of sight-word labels in a preschool classroom: A case study. *Florida Reading Quarterly*, March 1986, *22*(3), 7-12.

Investigates the effectiveness of two procedures to teach sight word labels on objects in a preschool classroom. The two conditions of: 1) more exposure to the words which were called Word/Object Labels, and 2) exposure to words plus a single daily directive to read them which was termed Word/Object Labels plus Minimal Direct Instructions were alternated throughout the academic year with a series of new sets of words. One intact class, consisting of 16 typical children and three communication-delayed children, comprised the population studied. The age range was from 3 to 6 years. Each child was pretested and posttested on each set of words. Several days after the posttest a maintenance check was given, and again, at the end of the academic year, a final test was given over all the words. For the Word/Object Labels condition, word cards were placed on the appropriate object. For the second condition, words were read to children as they were underlined, and children were told to read the words to themselves or to a friend. On the initial posttest, children recalled 17% of words in the first condition; 60% in the second condition. Similar results were found at maintenance and final testing. Trends for the communication-delayed children were similar to those for the typical children.

V-4 Reading readiness

HAYES, BERNARD L., & CANGELOSI, JAMES S. Kindergarten reading instruction and students' reading achievement trends. *Reading Improvement*, Winter 1985, *22*, 305-315.

Examines the first- through fourth-grade reading achievement trends of pupils who had experienced a rigidly structured kindergarten and first-grade reading program and a group that had been instructed in a loosely structured program over a like period of time. The 235 subjects were from nine elementary schools in two school districts. In one district, the *Stanford Achievement Test* was used, while the *Iowa Test of Basic Skills* was administered in the other. Multiple analysis of variance techniques were used with the comprehension and vocabulary standardized test scores accumulated over the grade one to four period. Pupils' age, sex, reading achievement level, and aptitude, along with the achievement levels of the

schools, were treated as interactive variables. In both school districts, results tended to support the notion of the existence of a period in which third and fourth graders have mastered basic decoding skills but are not yet fluent readers, a period of change and movement from an instructional stage involving much reading and practice on narrative prose to a new stage requiring extensive reading of expository material.

KAWAKAMI, ALICE J., & AU, KATHRYN HU-PEI. Encouraging reading and language development in cultural minority children. *Topics in Language Disorders*, March 1986, *6*(2), 71-80.

Describes an instructional approach designed to increase reading achievement and language learning in the Kamehameha Elementary Education Program (KEEP) in Honolulu. A model of least change was adopted in that familiar instructional events were designed by the research staff to make them more effective for the model population. Two areas of pupil strength were targeted: The first was the children's familiarity with home and community speech events. Using the "talk story" interactional style of the children and community, defined as a rambling personal narrative often produced collaboratively, teachers attempted to build on children's language as well as to model language. The second principle was the use of the children's knowledge of real-world events, and was based on an instructional framework called experience-text-relationship which included activating relevant background experience, establishing purposes for reading, and drawing relationships with text and life. Thus, lessons were conducted in a culturally compatible interactional style to help children draw relationships between text information and background knowledge and experiences. Analyses of videotaped story-reading lessons from both large and small groups are currently providing evidence for the identified pupil strengths, as well as the teachers' attempts to build on the strengths. It is argued that through teachers' use of the language and interaction style of learners, children are able to focus on learning to read, rather than on how to participate in discussion. Further, by engaging learners in prereading discussion, teachers are able to involve their pupils actively and to demonstrate the importance of background knowledge.

BUS, A.G. Preparatory reading instruction in kindergarten: Some comparative research into methods of auditory and auditory-visual training of phonemic analysis and blending. *Perceptual and Motor Skills*, February 1986, *62*, 11-24.

Compares the effect of two different practice methods (auditory and auditory-visual training) on nine classes (n = 216) of kindergarten children's phonemic analysis and blending skill, as well as their ability to read new words. During the last three months of kindergarten, pupils in one experimental group first learned a number of words as sight words and then practiced phonemic and visual analysis and blending using them. A second experimental group learned a number of letters and, in addition, received purely auditory training in analysis and blending. A third group served as a control. Both experimental programs were conducted for 20 minutes per day over 20 days. To determine which approach better prepared the pupils for reading new words, each child received individual training in reading by sounding and blending letters after completion of the program. All three groups made progress during the training period on phonemic analysis, and according to a two-way analysis of variance, even the pupils in the control group scored significantly better on the posttest. However, both experimental groups exceeded the achievement of the control group. None of the groups made progress in blending, and on the posttest the three groups did not differ significantly. A comparison of the groups' ability to read one or more words correctly after the reading training in sounding and blending showed that both experimental groups were more effective than the control, but did not differ significantly from one another.

OLOFSSON, AKE, & LUNDBERG, INGVAR. Evaluation of long term effects of phonemic awareness training in kindergarten: Illustrations of some methodological problems in evaluation research. *Scandinavian Journal of Psychology*, 1985, *26*(1), 21-34.

Explains methodological problems involved in combining experimental methods and a longitudinal approach to determine the relation between phonological skill and reading achievement in Swedish children. Ninety-five preschool children were divided into experimental and control groups receiving different programs for developing phonemic awareness. Phonemic synthesis and analysis tests were given pre and post. A simple reading test, *Pread*, was also given as a posttest. Eighty-three children were available for testing at the end of the first school year. Three reading tests, two spelling tests, and two phonemic-awareness tests were administered. Tests involved reading and spelling nonsense and irregular words, and a silent reading test. Synthesis and analysis tests were also administered. Methodological problems of great variances, ceiling effects, and group heterogeneity were illustrated with data from the study. Some long term effects of phonemic awareness training in kindergarten were demonstrated, with the effect being most evident on phonemic awareness, rather than spelling or reading tasks.

BECHER, RHODA MCSHANE. Parent involvement and reading achievement: A review of the research and implications for practice. *Childhood Education*, September/October 1985, *62*, 44-50.

Reviews selected research that identifies parental roles and practices that have been found to facilitate reading readiness, receptivity to reading instruction, and increased achievement in reading. Discusses the implications of these findings for teacher practices and parent training programs.

V-5 Teaching reading—primary grades

CEPRANO, MARIA A. The influence of two methods of teaching reading on beginners' perceptions of the reading process. *Reading Improvement*, Summer 1985, *22*, 142-146.

Extends the analysis of data collected in a previously reported study of word learning in an effort to determine if beginning readers taught by a Word Alone (WA) technique or a Context Clue (C) approach viewed the reading process differently. Originally, 158 prereading kindergarteners had been taught five words a day for eight days by either a C or WA approach. Data from 11 C subjects and 11 WA children, all of whom had recognized 20 or more words on a sentence mode test, were analyzed as to their oral reading errors on the sentence mode test. Aids, substitutions, and self-corrections were examined. The C group had more aids and fewer substitutions than the WA group, but differences were not statistically significant. Substitutions by the C group were meaningful significantly more often than WA group substitutions. Both groups were inclined to substitute with other words from the target list. The C group utilized syntactic and semantic constraints more effectively than did the WA group.

SPIEGEL, DIXIE LEE; FITZGERALD, JILL; & RECK, MILES H. Teaching children to use a context-plus-phonics strategy. *Reading Horizons*, Spring 1985, *25*, 176-185.

Studies the effect of a training procedure designed to teach pupils to integrate the use of context and phonics in identifying words. An instructional script was developed to provide three teaching sessions and two practice sessions. Instruction led pupils from simulated,

guided reading situations to real reading. Particular attention was given to developing conscious awareness of how the integrated strategy worked and getting pupils to justify word choices. Fourteen second-grade pupils identified as being least effective in the use of context served as subjects. Multiple oral reading samples were collected and analyzed using modified miscue analysis procedures. Dependent variables included instructional word recognition level, context usage, persistence in context usage, use of phonics, and substitution of real words. Findings revealed that pupils receiving the integrated training showed a significant increase in instructional word recognition level and substitution of real words when compared with a control group. No significant differences were found for context usage and use of phonics.

EVANS, MARY ANN, & CARR, THOMAS H. Cognitive abilities, conditions of learning, and the early development of reading skill. *Reading Research Quarterly*, Spring 1985, *20*, 327-350.

Compares two groups of 10 primary-grade classrooms differing in their instructional approach to beginning reading to determine the relation between learning activities, cognitive abilities, and reading skill. One group of classrooms was characterized as operating a knowledge-driven, language-oriented reading curriculum based on a British Infant School model. A second set of 10 nonexperimental classrooms was matched according to classroom layout, pupil composition, district of the school, and the socioeconomic status of the school neighborhood. Phase One of data collection involved employment of an observational coding system in the classrooms designed to describe content, materials, interactions, student involvement, and teacher-guided versus independent activities. Observation confirmed that half the classrooms followed an individualized Language-Oriented (L-O) approach, and half a decoding-oriented basal reader approach labeled Routinized-Performance (R-P). Results of Phase One indicated that teacher-led group activities occupied 36% of the school day in the L-O classroom but was the major instructional format (57%) in the R-P classrooms. In R-P classrooms, significantly greater emphases were placed on word analysis, independent activities involving printing, independent silent reading, and comprehension and context use. In comparison, L-O children spent more time using their individual word banks and orally reading stories they had dictated. Phase Two addressed whether these different sets of learning conditions produced better learning outcomes. Three measures of information processing, three measures of linguistic maturity, and a social skills test of reading and mathematics achievement addressed criterion performance in instructed skills. The reading measures included the *Stanford Achievement Test*, Primary Level 1 and passages from an informal reading inventory (IRI). No significant differences were found in the measures of information processing or social skills for the two groups. On criterion-performance tasks, the R-P group was superior on the Stanford cloze, on answering questions about the primer passage, and on the tests of number concepts and skills. Fewer than one-third of the children in the R-P group misunderstood the primer passages from the IRI, while almost half (47.6%) of the L-O failed to reach a 75% criterion level. In addition, while the various cognitive measures generally correlated positively with reading in the R-P group, significant negative correlations between linguistic ability and reading skill were observed in the L-O group.

CUNNINGHAM, PATRICIA M. First graders' simultaneous use of context and initial consonant cues to decoding unfamiliar-in-print words. *Reading Improvement*, Summer 1985, *22*, 132-137.

Seeks to determine the percentage of end-of-year first graders who are able to simultaneously use context and initial consonant cues to decode unfamiliar words. A secondary purpose related to an investigation of the effects of a short training program on children's ability to use simultaneously context and initial consonant cues. Ninety-four end-of-year first grade children in a rural-suburban southeastern United States school were tested on their

ability to read 12 sentences formed from three readily identifiable stems as well as target words to be decoded. For each sentence, all words except target words were sight words or decodable by most first graders. Reliability of the instrument was .94. Children were tested in small groups and were required to name 12 pictures representing the 12 target words. Further, the eight words making up the sentence stems were presented to the children and pronounced. Pupils were then told to match each of 12 sentences with the pictures by placing the number of the picture in a blank next to the appropriate sentence. There was only one picture choice in which the initial consonant of the target word matched the picture and made sense. Of the total sample, 53% were able to match 10 or more sentences with the appropriate pictures, indicating that many first graders can simultaneously use initial consonants and context cues to decode unfamiliar words. Fifteen of the 94 children matched two or fewer of the sentences with the appropriate picture, while 29 first graders matched between four and nine of the sentences and pictures. A placebo and experimental group of children scoring 4-9 correct responses were then randomly formed. Both met 30 minutes per day for 10 days with experimentals being given help in using initial consonant and context clues. There was no significant difference between groups in the use of context and initial consonants.

FALCON, SUSAN C., & SIMMS, ROCHELLE B. A word-category approach to teaching sight words. *Reading Improvement*, Summer 1985, *22*, 126-131.

Conducts a study to ascertain the influence of categorization on sight word acquisition by five first grade classrooms (n = 112). Children were assigned to control and experimental conditions by a stratified random sample of intact groups. The *Dolch Basic Sight Word List* was used for instruction. The list had been subdivided into 28 categories, each with 2 to 14 words, based on semantic references of each word cluster. The word list for the controls consisted of nine levels, 22 to 24 words each, arranged from easy-to-hard. The experimental pupils had sight words presented in semantic categories, while the control group had words drawn from the appropriate level of difficulty. Instruction took place in 30-minute daily periods for 12 weeks. The results of the analysis of the pretest-treatment-posttest design indicated a significant difference between the two groups over time, with the experimental subjects acquiring more words than the controls.

GUSZAK, FRANK. First graders read in Weslaco. *Alabama Reader*, December 1984, *12*(1), 7-13.

Describes a program for beginning reader pupils heavily saturated with reading situations and featuring home-made materials. The school population consisted of approximately 94% Mexican-American children. A great deal of practice and individualized instruction accompanied the utilization of the home-made materials. A feature of the program was the practice of providing teacher trainers to work in classrooms every day with teachers. These trainers moved from classroom to classroom assisting teachers in program implementation. Standardized as well as informal assessment techniques showed gains in reading. Informal assessments indicated that 66% of first graders were at or above the 50th percentile as opposed to 10% in previous years. At grade two, 93% of children scored at or above the 40th percentile in contrast to previous years when 8% to 12% scored at or above this level. Similar results occurred at grade three.

CANT, ROBIN, & SPACKMAN, PETER. Self-esteem, counselling and educational achievement. *Educational Research*, February 1985, *27*, 68-70.

Reports a study involving one classroom teacher's attempt to see if reading performance can be improved through counseling. The 39 children in the class were tested on Battle's *Canadian Self-Esteem Inventory*. The lowest 12 scores in the class of 10-year-olds were paired and assigned to either a control or an experimental group. Experimentals were given 20-minute counseling sessions twice a week for three months by their classroom teacher.

Counseling sessions were conducted as a group and involved having children talk about their experiences, behavior, and emotions. The self-esteem inventory was readministered and posttest data also collected on the Holborn Reading Age scores. Pretest reading scores had been collected nine months earlier. On the Holborn, experimental children averaged an 11½ months improvement for nine months, while controls showed a 6 months gain for the same period. Self-esteem gain scores also favored the experimental group.

ANDERSON, LINDA M.; BRUBAKER, NANCY L.; ALLEMAN-BROOKS, JANET; & DUFFY, GERALD G. A qualitative study of seatwork in first-grade classrooms. *Elementary School Journal*, November 1985, *86*, 123-140.

Presents the results of a study of seatwork in first grade classrooms, focusing on the instructional conditions that influence specific pupil behavioral and cognitive responses to seatwork. Six first-grade classrooms in four Title I schools in a midwestern city provided four target pupils for observation—a male and female high achiever and a male and female low achiever. All children were visited for five half-days during reading instruction. The observer described what the target children did, what they attended to, how they approached seatwork, how problems were approached, and how successful they were. In addition, copies of the seatwork were obtained, and teachers' explanations of assignments were audiotaped. Informal conversations with target children tapped their perceptions of how and why they were doing the work. Observational data were analyzed to identify distinct groups of pupils who frequently responded to instruction either adequately or poorly. Narrative records were used to identify differential instructional conditions that may account for different response patterns. Each distinct episode of academic activity was assigned a score on a five-point scale, with one representing almost no attention, and five representing full attention to the task. Seatwork performance was rated one if no or almost no answers were correct and five if all answers were correct. The intersection of these data yielded individual performance patterns and provided for the identification of eight poor responders and eight adequate responders. In general, poor and adequate responders were represented in each class; boys and girls were equally represented in the poor responders category. A strong association existed between response group and reading group assignment at the beginning of the year. Better readers were more likely than poorer readers to be attentive to classroom activities and successful on daily assignments. Poor responders/low achievers more often found the work difficult, and often lacked necessary skills and strategies for completing assignments.

KRAMER, CLIFFORD J. Do basal series underestimate the potential of first grade readers? *Wisconsin State Reading Association Journal*, Fall 1985, *30*(1), 29-31.

Seeks to determine if good first grade readers can read stories consisting of longer and more complex sentences than basal materials and written at a third-grade level. Also ascertains if the same first graders can learn new words at a faster rate than usual. The top 22 readers of 43 enrolled in two first grades in a rural school were selected, using teacher opinion as well as scores based on the number of words correctly read orally in one minute from a trade book. Each day for 10 days, children were presented with four new vocabulary words. After 10 days, children were asked to read orally four randomly chosen selections from four teacher-constructed booklets as well as a similar number from the regular first-grade basal series (the booklets employed basal reader words, as well as the 40 new ones). Errors counted were omissions, substitutions, and teacher-supplied words. In the 88 readings, the first graders read with 98.52% accuracy from the booklets which were written on a third-grade level; they read 7,371 words and made 109 errors. In 44 of the readings, no errors were made. Additionally, in looking at the best 11 readers, it was revealed that they made only eight

errors (7.34% of the total), and they performed orally with 99.78% accuracy. In the 88 readings from the regular first-grade basal series textbooks, the first graders read with 98.93% accuracy, making 87 errors in a total of 7,419 words read. In regard to new words, the subjects encountered 340 new, three-syllable vocabulary words, commiting 13 errors, with an accuracy of 96.18%. Again, considering the 11 best readers, it was noted that these pupils encountered 160 words, each three or more syllables in length, and made no mistakes.

PERSON, MARY E., & BURKE, DONALD M. Oral reading in the classroom. *Reading Improvement*, Winter 1985, *22*, 272-277.

Reports effects of short term intensive instruction on growth in oral reading fluency by pupils in the second, third, and fourth grades of a campus school. Children were assigned to an experimental group or to a control group with 26 in each group. For pre- and posttesting, Forms A and B of the *Diagnostic Screening Test: Reading* were used. College students served as tutors for the two-week period of the study and worked with the experimental group pupils on an individual basis. No significant differences were found between posttest scores of the two groups when pretest variances were accounted for.

ASHTON, C.J.; STONEY, A.H.; & HANNON, P.W. A reading at home project in a first school. *Support for Learning*, February 1986, *1*, 43-49.

Describes and evaluates the first year of a reading at home project in a first school in Sheffield, England, serving children who were considered among the most disadvantaged in the city. Two parallel classes of 7 to 8 years old, each numbering about 29 children, were involved, one as experimental and the other as control. The project's duration was from October to July. Experimental group parents were introduced to the project through either a group meeting with school personnel or through a home visit. Children were assessed before and after the project with the *Daniels and Diack Test 1*, Primary Reading Level 1, and *NFER Reading Test A*. Weekly record sheets reported how often each child read at home. Additional data collected included school records of books read, and parents' and teachers' views. Eighteen sets of parents returned a completed questionnaire at project conclusion. Parents' responses were generally favorable, reporting that their children read better, and that many now enjoyed reading. Weekly reading records suggested that on the average, children read nightly over 84% of the time of the study. The mean number of books read by children in the project was 37.2; the mean for the comparison class was 21. Statistically significant differences between the project group and the control group were found on the Daniels but not on the other tests.

STIERER, BARRY. School reading volunteers: Results of a postal survey of primary school head teachers in England. *Journal of Research in Reading*, February 1985, *8*, 21-31.

Reports the results of a survey of British primary school head teachers carried out to identify practices in the matter of volunteer help with reading instruction within schools. From an initial sample of 500 schools, an overall response rate of 76% was achieved. Over half of the respondents reported using unpaid individuals to assist with reading instruction on a regular basis. Volunteers included unemployed teachers, parents, and others such as college students. About half of the classes in infant schools and a third of the classrooms in junior schools use helpers. Reading helpers worked for an average of two hours weekly but the range of hours worked varied widely. Listening to children read orally, especially the better readers, was the dominant pattern of volunteer work.

V-6 Teaching reading – grades 4 to 8

LEECHFORD, SANDRA, & MANARINO, PRISCILLA. The effects of sustained silent reading on attitudes and interests of sixth-grade readers. *Tar Heel Reading Journal*, Winter 1982, *2*(1), 15-17, 21.

Designs a study to determine if Sustained Silent Reading (SSR) increases the desire to read and if such a practice changes attitudes and interests toward reading. Subjects were 61 sixth-grade pupils from one school who were randomly divided into experimental and control groups. Over a four-week period, those in the experimental group were involved daily in a 30-minute session of SSR as a supplement to regular reading instruction. The control group received only the regular reading instruction using a basal series. The *Wisconsin Reading Attitude Inventory* and the *Dulin-Chester Reading Inventory Questionnaire* were used for pre- and postassessments. Results suggested that SSR developed a positive attitude toward reading. Experimentals stated that they would now choose to read books more often as a leisure-time activity, as they had come to regard reading as an important daily happening.

ARANHA, MABEL. Sustained silent reading goes East. *The Reading Teacher*, November 1985, *39*, 214-217.

Explores changes in attitude toward reading, as well as the reading achievement of experimental and control fourth graders, some of whom were exposed to sustained silent reading (SSR) sessions twice weekly in a suburban Bombay school wherein English was the language of instruction. The school enrolls 1,800 children in grades K-10. Attitudes toward reading were pre- and posttested employing the *Estes Attitude Scales*. The mean change in scores for both groups favored the experimental pupils ($p < .05$). In the SSR pupils, the high and low ability subgroups showed a high gain. Among the controls, the same subgroups showed a loss in attitude scores. SSR did not differentially affect boys' and girls' attitudes toward reading, but there was a statistically significant difference between boys of the experimental and control groups. Cloze test results were examined to ascertain sex differences as well as subgroup differences between experimental and control groups. The mean change in achievement scores showed a significant difference favoring the experimental SSR groups. The difference in favor of the high ability subgroup was maximum. Girls in the SSR group showed a significant improvement in cloze test scores compared with control girls; boys showed no significant change.

TURNER, EDWARD C. Individualized instruction is possible using a basal reading series. *The Florida Reading Quarterly*, June 1984, *20*(4), 38-39.

Undertakes an investigation to determine the extent to which an individualized program may be used in conjunction with a basal series and to ascertain if associated independent work is as effective as that accomplished during a group approach. Eighteen fifth graders in a self-contained classroom reading in a sixth-grade basal were randomly assigned to experimental and control groups; members had similar scores attained the previous year on the *Metropolitan Achievement Test* (MAT). Nine members of the experimental group worked independently, while an equal number in a controlled situation received direct instruction four days a week for 30 minutes. Experiments used assignment sheets which incorporated directions for proceeding through the story, a vocabulary list, and an assignment including workbook pages. Children wrote responses to comprehension questions for each story. MAT scores were collected in grades four and five. No differences were indicated in entry performance scores, but some significance was detected in reading achievement following participation as an individualized reader. Raw scores as well as differences in stanine, percentile, and standard scores favored the experimental group subjects.

BEAN, THOMAS W., & STEENWYK, FERN L. The effect of three forms of summarization instruction on sixth graders' summary writing and comprehension. *Journal of Reading Behavior*, 1984, *16*(4), 297-306.

Examines the effects of rule-governed and intuitive procedures on subjects' summary writing and reading comprehension. Involved were 60 sixth-graders in three classes who were randomly assigned to one of three groups for summarization instruction: 1) rule-governed, 2) GIST, and 3) control. Instructional materials consisted of 16 paragraphs from the sixth-grade level *Barnell Loft* collection. Each group met for 12 instructional periods of about a half hour each over a five-week period. The rule-governed group were instructed in six summarization rules. When all six rules had been learned, the class as a whole composed summaries of the various paragraphs employed in the rules-instruction sessions, then applied the strategy in small groups and individually. The GIST group progressed through a direct instruction sequence also employing a six-step procedure. The control group subjects received the same amount of instruction but were told to write summaries by finding the main idea in a paragraph; they progressed from whole-group summary writing to small-group and individual attack. Two dependent measures were used to judge the efficacy of the three instructional approaches to summarization: 1) an unfamiliar five-sentence paragraph from the *Barnell Loft* material to be summarized in 15 or fewer words, and 2) paragraph comprehension as assessed by the *Nelson Reading Test*. On both measures treatment groups significantly outperformed the control group.

RITCHIE, PHIL. The effects of instruction in main idea and question generation. *Reading-Canada-Lecture*, Summer 1985, *3*, 139-146.

Assesses the effects of three types of instruction in main idea and question generation on the reading comprehension of 26 girls and 28 boys in grade six of a Canadian elementary school. Method one provided main idea instruction using a modelling of the thinking involved in finding main idea, prior to training in a self-questioning study procedure. Method two provided training in a self-questioning study procedure without instruction in identifying a main idea or topic. Method three provided instruction in language arts with little or no emphasis on reading comprehension. For the first 6 weeks, the three groups received equal amounts of instruction. For the last 3 weeks, instructional times and activities varied for the groups. An uncued main idea test was administered as a pre- and postassessment. At the conclusion of the study, passages were read, questions were generated, and five test tasks were administered to assess literal understanding of explicit information and main ideas. No immediate differences were seen on the uncued main idea test. On the cued main idea test, those in method one outperformed the control group. No significant differences were found in literal comprehension on the passage read. Significant relationships were found between type of question generated and training received, with those in the training in main idea group generating better questions than the others. There was a significant relation found between the quality of questions generated and pupil scores on the uncued main idea test.

TAYLOR, BARBARA; OLSON, VICKI; PRENN, MAUREEN; RYBCZYNSKI, MARCIA; & ZAKALUK, BEVERLY. A comparison of students' ability to read for main ideas in social studies textbooks and to complete main idea worksheets. *Reading World*, March 1985, *24*(3), 10-15.

Reports two studies investigating the question of whether or not the instruction and practice pupils receive on main ideas contained in basal reader worksheets is adequate for teaching them how to read for main ideas in content textbooks. In Experiment 1, 85 average or above average fifth-grade readers read paragraphs from three basal worksheets and were asked to select the best main idea selection from four choices. They were then asked to read a

three-page excerpt from a social studies text and to write down the main ideas for the two sections and six paragraphs in the text. Additionally, they were asked four short answer main idea questions to be answered from recall of the text. Mean score on the worksheets was 81%; mean score for generating main ideas from the text was 45% and mean score for recall main ideas was 60%. In Experiment 2, 58 sixth graders, drawn from a different school, read two main idea basal reader worksheets and selected main ideas. They also read two social studies passages, wrote a main idea sentence, and also chose the best main idea response from four choices. Mean score on the worksheets was 88%, for generating main idea sentences, 40%; and for answering multiple-choice questions on the text, 73%.

FREEBODY, PETER, & TIRRE, WILLIAM C. Achievement outcomes of two reading programmes: An instance of aptitude-treatment interaction. *British Journal of Educational Psychology*, February 1985, *55*, 53-60.

Compares the test performance of 180 Chicago sixth-grade pupils who were taught in reading materials with contrasting philosophies. Ninety-six used an explicitly sequenced, behaviorally oriented skills program. Eighty-four children used a program which placed more emphasis on language and less on specific skill development. All had been in their present reading program for two years or longer. Pre- and posttests were the appropriate level reading subscales of the *Educational Development Series* given at the end of grades four and six. An aptitude-program interaction was confirmed using multiple regression analysis. For the skills group, posttest was predicted by both pretest and ability. For the language emphasis group, ability was the only significant predictor of posttest performance. A significant aptitude-treatment interaction was found: high ability pupils in the language program outperformed those in the skills program, while lower ability pupils in the skills program scored higher than those in language emphasis program. Explanations and implications are discussed in terms of the different degrees of benefit derived from explicit organization of the learning environment for pupils with varying levels of academic competence.

PARIS, SCOTT G.; CROSS, DAVID R.; & LIPSON, MARJORIE Y. Informed strategies for learning: A program to improve children's reading awareness and comprehension. *Journal of Educational Psychology*, December 1984, *76*, 1239-1252.

Tests the hypothesis that teaching children about the existence, use, and value of specific reading strategies over a 14-week period can improve reading comprehension. Subjects were 87 third graders and 87 fifth graders from eight intact classes, four classes receiving training and four serving as controls. Measures administered as pre- and posttests were: Comprehension subtest of the *Gates-MacGinitie Reading Tests*, Paragraph Reading subtest of the *Tests of Reading Comprehension*, and study designed cloze tests and error detection tasks. Information learned during the specific reading lessons was assessed by 20-item multiple-choice tests. Strategy training was provided for four months and included two 30-minute classroom lessons per week; bulletin board materials; and suggestions for teachers on how to use the strategies. Training was divided into three phases: focusing on the general awareness of need for goals, plans, and strategies; the specific strategies themselves; and comprehension monitoring strategies. Children in the informed strategies group made larger gains on cloze and error detection tasks than did children in control groups. No differences were found on the standardized reading comprehension tests.

CRITTENDEN, MARY R.; KAPLAN, MARJORIE H.; & HEIM, JUDITH K. Developing effective study skills and self-confidence in academically able young adolescents. *Gifted Child Quarterly*, Winter 1984, *28*, 25-30.

Assesses whether a course providing practice in advanced study and written language skills, presented systematically by a teacher who modeled desired behaviors and encouraged participation, would affect the written language proficiency, self-concept, and knowledge of

study skills of junior high level students. The 16 sixth- to ninth-grade subjects who took part in the experiment scored above average on individual tests of intelligence and group achievement, but were not performing at the level they and/or others wanted. Two learning specialists conducted seven weekly sessions of two hours each on SQ3R methods, report writing, book report writing, and written expression. Pre- and posttest comparisons indicated that participants made significant gains on the *Piers-Harris Children's Self Concept Scales*, on two of three written language scales of the *Picture Story Language Test* (PSLT) (Language Productivity and Syntax, but not Abstract Content), and on three of the seven subtest scores of the *Cornell Learning and Study Skills Inventory* (CLASSIC) (Goal Orientation, Activity Structure, and Scholarly Skills). On pretest scores of 30 age-mates enrolled in a gifted program but who did not take part in the training, nonparticipants scored relatively higher on the three PSLT scales. After the program, participants somewhat surpassed the nonparticipants (but differences were not significant) on the PSLT Syntax and Abstract Content scales, the Self-Concept scale, and all CLASSIC scales except Self-Mastery. Overall, girls had somewhat higher scores initially, and boys appeared to make more gains with instruction. On the CLASSIC, older pupils scored higher on all pre- and posttest scales, except Self-Mastery. Older pupils initially scored higher on the PSLT Productivity and Abstract Content scales; while younger group students improved, they did not catch up with the older ones. On the self-concept scale, older pupils scored higher on both pre- and posttests, but the younger group made greater gains (8 points as compared with 1.5 for the older group).

LOVITT, THOMAS; RUDSIT, JAMES; JENKINS, JOSEPH; PIOUS, CONSTANCE; & BENEDETTI, DINA. Two methods of adapting science materials for learning disabled and regular seventh graders. *Learning Disability Quarterly*, Fall 1985, *8*, 275-285.

Investigates two methods for adapting seventh-grade physical science textbooks: Precision Teaching (PT), and Study Guides (SG). PT emphasized see-to-say and see-to-write practice sheets featuring important words and definitions; study guides emphasized sequenced main ideas as the teacher lectured. Pupils in seven classes were divided into three groups of high, medium, and low achievement. In each class, two were randomly assigned from each ability group to form the experimental group (n = 42), with each group including one learning disabled (LD) pupil. Three subgroups in each class acted as controls (n = 70). Remaining pupils in classes were considered contrast groups. Before and after treatment, pupils completed a 29-item multiple-choice test. On day 5 and 10, they wrote all they could about specified topics. Twenty LD pupils were observed and their behavior coded during six lectures. Gain scores were higher for experimental than for control subjects, but no difference was found between the PT and SG groups. Interactions increased with the introduction of the study strategies for the majority of the LD pupils.

LINDSAY, GEOFF; EVANS, ALISON; & JONES, BEN. Paired reading versus relaxed reading: A comparison. *British Journal of Educational Psychology*, November 1985, *55*, 304-309.

Compares two methods of parental involvement in development of children's reading. Each method, paired reading and relaxed reading, was conducted with 10 British children, mean age 9.4 years, for six weeks. Progress was monitored by home visit or telephone in each condition. Pupils were pre- and posttested with the *Neale Analysis of Reading Ability*. Parents were introduced to the techniques and practiced them under supervision before they began implementing them at home. Those in the home monitoring condition had weekly home visits in which parent and child were observed reading together. Those in the phone condition received telephone calls about progress. Both interventions produced gains significantly better than predicted on the basis of past reading achievement and an increase in chronological age. No significant differences were found in main effects between the two interventions.

DUNN, BILL. Reading as pleasure or difficult task: Easy reading and disenchantment. *Reading*, November 1985, *19*, 140-146.

Addresses whether disenchanted readers can be engaged by offering an alternative to challenging school reading material through the provision of easy reading materials. Four nine-year-old children were selected from the researcher's classroom in Newcastle upon Tyne by drawing upon information collected from parents about their children's reading habits and preferences, from the children's perceptions of their own reading habits, from a survey of a one-week inventory of the children's reading, and the results of the *Dunham Attitude to Reading* test. Two of the identified reluctant readers were very able, while the other two were less able than their peers, as measured by a test of reading comprehension. A variety of easy books was placed in the classroom and the children invited to read them with the stipulation that if the books were read, the reader should compile a Review Form offering reactions to the book. A follow-up Reading Survey was conducted after the books were removed at the end of a four-week period and then again six weeks later. Results showed an initial stimulation of reading across the whole class immediately following the opportunity to read and review a book. The reluctant readers who were less able had read more books than their able counterparts (almost three times as many), but no significant gains were made by them in the posttest Survey. The reluctant readers who were more able made a statistically significant gain in book reading ($z = 2.06$, $p < .05$), suggesting that the program had an effect with them.

FERGUSON, ANNE M., & KENNEDY, MELANIE. P-R-E-V teaching predictions and concepts simultaneously. *Reading Horizons*, Spring 1985, *25*, 194-199.

Investigates whether making predictions prior to reading increases pupils' comprehension of the text. Seventeen fourth graders reading one year below level were taught a prediction strategy labeled P-R-E-V, an abbreviation for *P*redict, silent *R*ead, *E*liminate false predictions, and *V*erify predictions. The five-day teaching procedure included pre- and posttesting on days one and five. On the three intervening instructional days, the teacher encouraged the children to make predictions using another social studies text unit, to read silently to test those predictions, to share the information from text for support or elimination of predictions, and to verify predictions that were not supported by the text by using other reference materials. The average score on the cloze pretest was 38%, while the posttest average was 41%. The researchers report that 12 of the 17 children had a higher posttest than pretest score. One less pupil fell within the frustration level range on the posttest, while one more pupil attained an independent level performance.

V-7 Teaching reading – high school

CHO, HEE-HYUNG, & KAHLE, JANE BUTLER. A study of the relationship between concept emphasis in high school biology textbooks and achievement levels. *Journal of Research in Science Teaching*, October 1984, *21*, 725-733.

Conducts a two-phase study attempting 1) to determine if there is a relation between student achievement in biology and textbook content, and 2) to assess whether there has been a change in concept emphasis in biology texts as a result of the recommendations of a national study. First the 121 biology items from the 1976-1977 National Assessment of Educational Progress (NAEP) science assessment were identified and classified with 10 conceptual areas in biology by 13 judges. The same judges also categorized each objective from the three most widely used biology textbooks into one of the 10 conceptual areas. Relative emphases placed on the conceptual areas were then determined. Additionally, the authors did the same tasks

for three 1983 biology texts. Achievement level for students was the percentage responding correctly to a given item on the NAEP science test. Significant relationships were found between achievement level and concept emphasis at Cognitive Level 1 (Knowledge), Level 3 (Application), and Level 4 (Analysis). When the 1973 and 1983 textbooks were compared, there appeared to be no dramatic changes in content area emphases except in one area, Growth and Development. The authors concluded that there was a linear relationship between the emphasis found on concepts in texts and student achievement.

BEERS, PENNY G. Accelerated reading for high school students. *Journal of Reading*, January 1986, *29*, 311-315.

Describes a one semester accelerated reading class devised to enhance reading skills of 14 ninth-grade students who plan to attend college. Students took the *Reading for Understanding Placement Test* (RFU) and the *Nelson-Denny Reading Test* before working through RFU materials, speed reading exercises with reading pacers, and sessions on test-taking and study techniques. Significant gains were made in all test areas on end of the semester testing.

ZIRKELBACH, THELMA. SQ3R: Sometimes it works; sometimes it doesn't. *Reading Improvement*, Fall 1985, *22*, 178-181.

Assesses the effectiveness of study skill methods on students' learning of social studies content. Subjects were 212 ninth-grade students enrolled in world history. Five treatment groups were used. Two groups used independent study procedures, SQ3R and sentence generation; two groups used teacher-directed methods, S4R and the Guided Reading Procedure; and a control group read the material and answered check-up questions. Study skills instruction was conducted by the classroom teachers and continued for one complete unit. Achievement was determined by project-developed fact recognition and main idea recall tests. On the fact recognition test, the teacher-directed groups performed significantly better than the independent study groups but not significantly better than the control group. On the main idea test, the control group scored significantly higher than both the teacher-directed groups and the independent study groups. The author interprets the results as suggesting that independent study methods are more effective when students are already familiar with the content, when readability level is appropriate for students' reading level, and when students have had sufficient practice with the study methods.

CROWHURST, MARION, & KOOY, MARY. The use of response journals in teaching the novel. *Reading-Canada-Lecture*, Winter 1986, *3*, 256-266.

Describes the responses made in journal entries by students in grades 9 and 12 in a British Columbia school. Response journals were maintained by 32 grade 9 subjects of varying abilities who were involved in the reading of Robert Cormier's *I am the Cheese* and by 14 grade 12 members of a nonacademic class who were reading Allan Paton's *Cry, the Beloved Country*. Readers were requested to make journal entries during their first reading of the novel at specified intervals. They were discouraged from merely relating the content of the text. For 10 days, both class and homework were devoted entirely to reading and journal writing. Journal segments were categorized and counted by the following: 1) comments about the book's structure; 2) hypotheses about plot, characters, etc.; 3) personal responses about people and events; and 4) comments about author's style. The percentage of students who made comments in each of the four categories at grade 9 and 12, respectively, was: structure, 97 and 64; hypotheses, 100 and 86; personal, 94 and 93; and style, 44 and 93. All but four ninth graders indicated that maintaining the journal aided their understanding of the novel.

V-8 Teaching reading—college and adult

FLIPPO, RONA F. Results of the first annual Flippo poll: College professors and staff respond. *Forum for Reading*, Spring/Summer 1986, *17*, 44-45.

Reports responses (12% of 580) on a questionnaire survey of college professors and staff having expertise in reading and study skills instruction asking what preparation entering freshmen should have to succeed in college. All respondents indicated that English was important to success in college, 99% included mathematics, 96% said science, and 84% ranked history/U.S. government as important. Respondents also contended that high motivation, reading ability, and study skills abilities should be prerequisites for college entrance. Many who responded added library skills to the list. Very few respondents considered traditional prerequisites like GPAs, SATs, and ACTs to be of much importance.

HEERMAN, CHARLES E., & TRENNEPOHL, HARLAN J. Reading gains of females and males in a college program. *Reading Improvement*, Summer 1984, *21*, 98-102.

Examines the effects of instruction on the reading gains of 63 females and an equal number of males enrolled in a college reading program that focused on text organizational strategies, comprehension subskills, vocabulary, vocabulary building strategies, and skimming. The program was a 16-week course. Subjects were pretested on the *Watson-Glaser Critical Thinking Appraisal*, the *Nelson-Denny Reading Test*, and the *Kansas State Reader Attitude Scale*. Following instruction, alternate forms of the instruments were employed with the exception of the attitude scale, where the original form was re-administered. Using a repeated measures ANOVA, no significant differences were found between the two groups. Females and males made equal and respectively significant gains.

ROBERTS, JUDY, & KELLY, NANCY. The keyword method: An alternative vocabulary strategy for developmental college readers. *Reading World*, March 1985, *24*(3), 34-39.

Investigates the effectiveness of two vocabulary learning strategies: the keyword and dictionary methods. Subjects were 40 college students enrolled in two developmental reading classes. One intact class served as the experimental group, and the other as the control group. Twenty words missed by at least 75% of subjects on a pretest were used as vocabulary words for the study. Experimentals were given an explanation and examples of the keyword method, and then presented with the 20 words, their definitions, keywords for each, and a descriptive visual image to use in aiding recall. Controls were given the list of words with their definitions and were allowed 10 minutes for study. Vocabulary was tested immediately after the study period and again one week later. Results favored the keyword method over the dictionary method.

SNYDER, VIVIAN. A comparison of the SQ3R method with two other traditional methods for studying college textbook chapters. *Reading Improvement*, Fall 1984, *21*, 244-248.

Compares SQ3R and two other study methods, outlining and underlining, for their effectiveness with 50 college special admissions students. Three different social science chapters from an edited book of readings were used; each chapter was accompanied by a 15-item multiple-choice test. Subjects were in three different classes. For each of three weeks, each class received an initial hour-instructional session in the technique to be presented that week. Recall performance was determined at the end of each of the three weeks, utilizing the multiple-choice test. Mean recall performance was higher for outlining than for the other two methods.

USOVA, GEORGE M. The effectiveness of an army officer reading-study skills program. *Reading Improvement*, Summer 1984, *21*, 121-125.

Evaluates the effectiveness of a four-hour reading-study skills course designed for army officers. Four separate classes with a total enrollment of 175 were involved. The *Baxter Test for Determining the Best Perceptual Learning Modality* was used to provide participants with information on the way they learned most effectively (auditory, visual, tactile). Approximately two hours was devoted to improving rate and comprehension using an eye-hand pacing technique. Pre- and posttests on different passages from a text were used to assess rate and comprehension. An overall mean gain of 130 words per minute and a 2.2% gain in comprehension were found. A 10-item Likert-scale questionnaire determined that attitude toward the course was positive.

PITTS, SANDRA KELTON. Read aloud to adult learners? Of course! *Reading Psychology*, 1986, *7*(1), 35-42.

Studies whether a program of reading aloud from selected literature to basic skills university students, each with text in hand, would have a positive effect on their reading ability and written language production. Forms C and D of the *Nelson-Denny Reading Test* were used for pre- and posttesting along with a 500-word essay. One intact class of 13 students participated in the study. The experimental class met one hour each week for 13 weeks. Instructors read aloud to the class as students followed along. Discussions occurred after each reading. All students made higher scores on the final essay than on the pretest essay with the greatest gains at the discourse and paragraph level. Few gains were made at the sentence, clause, phrase, word, morpheme, and spelling levels. Pre- and posttest reading scores did not indicate the gains anticipated. No statistical analysis of the data was made.

V-9 Teaching materials

ELSTER, CHARLES, & SIMONS, HERBERT D. How important are illustrations in children's readers? *The Reading Teacher*, November 1985, *39*, 148-152.

Analyzes and compares the text in two first-grade basal series and in several storybooks to determine the role of pictures in each. Story references to characters, locations, and objects were classified as picture-dependent (required an illustration to be understood) or picture-independent (understandable alone). Picture-dependent references included picture-dependent words and picture-only references; picture-independent references included picture-independent words and word-only references. The two basal series used represented a meaning approach and a decoding approach. Over 6,000 references in 700 pages of text were coded. The meaning approach series was more picture-dependent than either the decoding series or the storybooks and had 21% picture-dependent references as opposed to 8% in both the decoding series and the storybooks. In the meaning approach series, 31% of picture-dependent references were to location, 18% to character, and 21% to objects. Both series showed a decrease in picture dependence as materials increased in difficulty. The meaning approach books were 46% picture-dependent in beginning-of-the-year books, 18% in middle-of-the-year books, and 6% in end-of-the-year books; for the decoding series, figures were 28%, 5%, and 3%, respectively.

GREEN-WILDER, JACKIE L., & KINGSTON, ALBERT J. The depiction of reading in five popular basal series. *The Reading Teacher*, January 1986, *39*, 399-402.

Analyzes five widely used basal reading series to ascertain the numbers and types of reading events depicted, especially to learn whether the incidents set forth involved persons whom boys and girls might likely identify with, and perhaps use as models for their own

reading behavior. The series were all designed for all eight grades. Each reference to reading was recorded on a form and analyzed by grade and series. Primary grade materials were grouped together into one set, and middle grade readers (4 to 8) into another set. In the 2,497 selections, 273 were uncovered that depicted a wide variety of reading incidents. In general, more children (126) than adults (100) and more males (123) than females (101) were portrayed as readers. A large variety of materials were pictured being read. Oral reading was depicted in 54 stories and 29 stories involved individuals reading for pleasure. However, few parents were portrayed reading newspapers or magazines for extended periods of time, nor was reading shown as an integral or important aspect of daily activities.

FRY, EDWARD, & SAKIEY, ELIZABETH. Common words not taught in basal reading series. *The Reading Teacher*, January 1986, *39*, 395-398.

Determines the number and percentage of words appearing on the 3000 Instant Words list that are used in each of five basal series, K-6. Percentages of words ranged between 50% and 59%. Provided is a listing of 382 common words not introduced in any of the five series.

HANUS, KAREN STINSON, & MOORE, DAVID W. Reading comprehension questions in secondary literature textbooks for good and poor readers. *English Quarterly*, Winter 1985, *18*, 93-103.

Examines the comprehension questions contained in high school literature textbooks and compares the types of questions posed for good and poor readers. Two books from each of two series, one intended for good readers and one designed for poor readers, were examined. Only texts for grades 9 and 10 were involved with 20% of the passages randomly selected from each genre (short story, nonfiction, poetry, drama) in each book. Some 392 questions eventually were utilized. Three aspects of each question were coded: level of processing, level of terminology, and teaching function. *Level of processing* included questions which were textually explicit, textually implicit, and scriptally implicit. *Level of terminology* described the language form of questions: generic, mixed, and content-specific. The findings for *teaching function* revealed no variation as every question served an assessment function. The two series primarily contained nonliteral questions. Subjects faced tasks that required various degrees of higher order thinking. Rarely did questions require lengthy responses, many were answerable by a word or two. The dearth of generic questions, those which emphasize features of a mode of discourse, was clearly evident.

FELDMAN, MARY JANE. Evaluating pre-primer basal readers using story grammar. *American Educational Research Journal*, Winter 1985, *22*, 527-547.

Evaluates pre-primer basal reading materials using a story grammar. Four stories from two widely used series were selected and rewritten in accord with the rules of the story grammar. Subjects were 96 first graders from five classrooms in two schools who were seen individually and randomly assigned within sex to one of eight conditions. The eight conditions were formed by a 2 x 2 x 2 crossed design. Each of the three conditions in the design had levels as follows: 1) the story version condition was either story grammar story or basal reader story; 2) the picture condition was either pictures present or pictures absent; and 3)the presentation condition was either oral reading or listening to a tape recording. Results indicated that: 1) children who read or listened to story grammar stories had better recall than children who read or listened to basal reader stories; 2) that recall for stories with pictures was not different from the recall for stories with no pictures, with the exception that when pictures were present there were more logical additions to the stories than when pictures were absent; 3) children who listened to stories had better recall than children who read stories; and 4) there were no significant differences between the story grammar and basal reader version on words read per second, words skipped, or reading errors during oral reading.

ARMBRUSTER, BONNIE B., & GUDBRANDSEN, BETH. Reading comprehension instruction in social studies programs. *Reading Research Quarterly*, Winter 1985, *21*, 36-48.

Analyzes pupil textbooks and teachers' editions of five social studies programs at fourth- and sixth-grade levels in order to determine the amount and type of reading comprehension instruction provided. Procedures for the study were carried out in three steps: 1) examination of promotional literature to note what the publishers were saying about the role of reading in social studies; 2) determination of reading skills included in the programs through the use of scope and sequence charts accompanying the materials; and 3) examination of pages referred to on the scope and sequence charts. One program included no reading skills among its stated objectives but listed some under a general category of social studies skills. Four programs included three skills: building vocabulary, locating information in several sources, and finding the main idea. Three of the four programs included skills in problem solving, outlining, recognizing chronological relationships, and comparing and contrasting. The range of reading/study skills listed was from 9 to 48. Only 3% of the page references were to pages containing direct instruction, while 77% fell into the practice/application category. An average of 20% of skills listed on the scope and sequence charts could not be classified. Only two of the five programs afforded direct instruction in the pupil textbook.

BAUMANN, JAMES F., & SERRA, JUDITH K. The frequency and placement of main ideas in children's social studies textbooks: A modified replication of Braddock's research on topic sentences. *Journal of Reading Behavior*, 1984, *16*(1), 27-40.

Adapts procedures used in an analysis of adult expository materials to determine the frequency and placement of main ideas in children's social studies textbooks. Analyzed materials included recent texts at grades 2, 4, 6, and 8 of five publishers. Five expository passages were selected from each text; each passage was then segmented into T-units. Text sections and individual paragraphs were then analyzed for three types of main ideas: simple, delayed-completion, and inferred. For text sections, 27% of main ideas were simple or explicit, 6% were delayed-completion, and 67% were inferred. For paragraphs in the fourth-, sixth-, and eighth-grade texts, the figures were 44%, 30%, and 26%, respectively. An analysis of the placement of explicit main ideas found that 62% appeared in the first sentence in a paragraph and 13% in the last sentence.

MCCLINTOCK, ANN H. Syllabication generalizations: A study and a strategy. *Florida Reading Quarterly*, December 1985, *22*(2), 34-37.

Investigates the utility of six common syllabication generalizations in pronunciation of multisyllable words employed in social studies texts used in grades four through eight. All words of two or more syllables listed in the glossary of one text at each grade level were examined. Proper nouns, abbreviations, and foreign terms not ordinarily used were omitted. A total of 740 multisyllable social studies words were identified, and each was analyzed to determine applicability of the generalizations. Of the words gleaned from the five glossaries, only 38 (5%) contained one syllable that did not fit into any of the six generalizations. Overall accuracy of the six generalizations was 72%.

GUNDERSON, LEE. One last word list. *Alberta Journal of Educational Research*, Decemember 1984, *30*, 259-269.

Describes the development of two regional word lists, one based on the writing samples of 80 second-, fifth-, eighth-, and eleventh-grade subjects from a large metropolitan school district in the Western United States. The sample consisted of 17% Spanish surname, 24% black, 12% Filipino, 20% Asian, 18% white, and 9% other. Subjects wrote a descriptive, a narrative, and an argumentative essay, and a second list that emerged solely from the

compositions of second graders. All 240 written samples were analyzed and recorded and subjected to a computerized program. The combined word yield from all the grades involved produced a corpus of 16,000 words, from which the top 242 words were extracted to form the Inner-City (I.C.) list. This was compared with four pedagogical lists; Dolch, Johns' Revised Dolch List, Hillerich, and Durr. Percentages of words shared with those lists were 60, 64, 72, and 60, respectively. An analysis of the I.C. list with the preprimer, primer, and first reader words in each of three basal series was done and correlation coefficients of .84, .81, and .80 were found. Following analysis, the second grade corpus yielded some 2,000 words which was reduced to the top 105 words, most of which were to be found on the lists employed for comparison with the development of the I.C. list: 81 appearing on the Dolch, 84 on the Johns, 82 on the Durr, 88 on the Hillerich, and 64 on the *Thomas 100 Most Frequent Words List* which had been developed for Canadian use. The second grade list accounted for over half of the vocabulary in the initial reading Texts.

EBERTS, MARJORIE, & GISLER, MARGARET. A vocabulary study identifying the essential content area words for each intermediate grade. *Indiana Reading Quarterly*, Spring 1986, *18*(3), 7-16.

Describes the development of word lists designed to identify the essential vocabulary needed for subject mastery in English, mathematics, science, and social studies for grades three through six. Indiana state-adopted texts were the sources from which these vocabulary lists were derived. Twenty-eight books were examined, seven for each content realm. All words in indexes and glossaries were considered for inclusion with the exception of proper nouns, abbreviations, prepositions, pronouns, conjunctions, and articles. Words or phrases were included in a final list if they appeared in four of the seven textbooks. Classroom teachers were asked to rate the words and phrases for each field into four categories of importance, with each content area list being rated by at least 45 teachers. Words and phrases then were placed into three categories of importance according to the ratings supplied by teachers. The first category included those that had been rated very important by 75% or more of the raters. This list was viewed as the most basic vocabulary of each content field. Within this category there was considerable repetition of words from grade to grade, especially in English and mathematics. The second category included the words and phrases rated very important by more than 50% but less than 75% of the rating teachers. The third listing included all remaining words and phrases and was regarded as the most sophisticated vocabulary produced by the investigation. Lists of words are presented by content area for each grade level, three through eight.

NIELSEN, LORE A.; LIZER, SUSAN B.; & TURNER, SUSAN D. Readability in basal series selection: What do those numbers mean? *Florida Reading Quarterly*, June 1986, *22*(4), 5-9, 13.

Gives a case study of the findings uncovered by one Florida county in investigating reading text readability levels as part of their adoption process. In the initial screening stages, nine publishers were asked to submit readability information on each story in each level in terms of Degrees of Reading Power, Spache Readability Formula, and Dale-Chall Readability Formula. Inconsistency was found in the manner in which publishers applied and interpreted readability formulas. The fifth grade basal in five series was then examined for the range of readability levels included. While mean readability scores for books ranged from 5.4 to 5.9, the variation of readability levels within books was from 2.0 to 5.4 years. The percentage of out of range selections was from 1% to 29%.

STAHL, NORMAN A.; HENK, WILLIAM A.; & KING, JAMES R. Are drivers' manuals right for reluctant readers? *Journal of Reading*, November 1984, *28*, 166-168.

Assesses the readability of drivers' manuals from all 50 states in the United States and from Puerto Rico. Four 100-word samples were taken from each manual, choosing passages on common themes: 1) driving under the influence of alcohol; 2) motorcycle safety; 3) using seatbelts; and 4) obtaining a learner's permit. Flesch, Ragor, and Fry readability formulas were applied, yielding different estimates of readability for the passages. Manuals varied in reading difficulty, with passages ranging from sixth-grade level through college and professional levels.

HENK, WILLIAM A.; STAHL, NORMAN A.; & KING, JAMES R. The readability of state drivers' manuals. *Transportation Quarterly*, October 1984, *38*, 507-519.

Determines the readability levels of drivers' manuals in each of the 50 states and Puerto Rico. Four passages of approximately 100 words were analyzed using two readability formulas. Differences existed among the difficulty levels of the manuals, with passages ranging from sixth-grade to fifteenth-grade level on one formal and from sixth grade through the level of college graduate on the second. Mean passage difficulty fell between tenth and twelfth grade, depending on which formula was used. Only 41% of the manuals were written at or below the ninth-grade level. Other factors informally assessed were visual aids, page formats, print size, line length, graphic conventions, manual size, and the presence or absence of study aids.

MADDUX, CLEBORNE D.; CANDLER, ANN C.; & IRONS, TOM. Readability of 23 learning disability textbooks. *Reading Improvement*, Spring 1986, *23*, 43-48.

Analyzes reading difficulty levels, human interests, and content coverage of 23 textbooks for college-level introductory courses in learning disabilities. Twenty random samples of 100 words each were selected from each text. The Flesch reading ease and human interest scores were computed for each book. In addition, the subject coverage of each textbook was analyzed and charted. Readability scores ranged from 19 to 55 with 11 texts falling into the very difficult or college category. Eighteen texts fell into the dull category and five in the mildly interesting category. Texts were quite diverse in the topics covered. No glossary was found in 16 books, while 4 lacked an author index.

THOMPSON, G. BRIAN. Orthographic structures: Grapheme patterns in child and adult texts. *Journal of Research in Reading*, February 1985, *8*, 32-44.

Analyzes the frequency of occurrence of grapheme patterns in the texts of two series of children's initial reading materials, one from the United States and one from New Zealand. Patterns were analyzed by a classification of bigram components for different spatial positions within words. Word tokens and word types were tabulated for consonant-value (both graphemes were consonants) and vowel-value (both graphemes were vowels). Comparisons were made with similar tabulations from previous studies of adult texts. While there was considerable agreement in grapheme patterns between the adult texts and the children's texts, there were patterns occurring with high frequency in children's books which occurred with low frequency in adult books. Analyses of initial graphemes suggested patterns which were rarely found as members of initial consonant-value or vowel-value bigrams for either adult or children's materials.

WHORTON, JAMES E.; KARNES, FRANCES A.; & CURRIE, BILLYE B. Reading expectancy formulae and gifted students: Implications for the classroom teacher. *Reading Improvement*, Fall 1985, *22*, 236-238.

Compares the reading achievement levels of 65 gifted children in grades 5 to 7 with their reading expectancies, as computed with four reading expectancy formulae: Bond and Tinker, Gilliland, Harris, and a general mental age formula. Expectancies were computed for each child using each formula. The purpose of the computations was to demonstrate the utility of each formula for judging children's performance and in counseling with parents. Discrepancies were reported based on the scores on the *Wide Range Achievement Test* (WRAT), Reading. Each formula underpredicted the level of achievement on the WRAT for fifth graders. The Harris Formula was the most conservative estimate for grades 6 and 7, while the Gilliland was the most optimistic, based on reading grade scores. The researchers noted that further statistical analyses revealed no useful implications for education programs.

V-10 Teaching – grouping/school organization

HALLINAN, MAUREEN T., & SORENSEN, AAGE B. Class size, ability group size, and student achievement. *American Journal of Education*, November 1985, *94*, 71-89.

Examines the effects of class size on pupil achievement in two kinds of classrooms: those in which teachers engage in whole class instruction, and others wherein pupils are assigned to ability groups for instruction. The sample was limited to classes that contained between 25 and 35 pupils and was obtained from data collected in a large longitudinal study of children in California. Data included information on 791 children drawn from 26 classes in five public and two private elementary schools. October and May testing was done and included scores on the *California Test of Basic Skills, Science Research Associates* test, the *Iowa Test of Basic Skills*, and the *Metropolitan Achievement Test*. A composite grade-equivalent score in reading and mathematics was obtained for all children. Grouping information was obtained from classroom teachers. Of the 26 classes, 18 were grouped for reading and 10 for mathematics. Assignment was on the basis of ability. Stable ability groups were found in 10 of the classes with reading groups and in 6 with mathematics groups. Three ability groups tended to be the norm. Cross sectional and longitudinal analyses revealed that class size had a statistically significant negative effect on pupil achievement as well as on growth in both areas over the school year. Class size effects were greater in grouped than in ungrouped classes. When race and achievement were controlled, the class size effect vanished. In the ability grouped classes, it was group size rather than class size that was negatively related to achievement.

V-11 Corrective and remedial instruction

METZGER, RICHARD L., & WERNER, DAVID B. Use of visual training for reading disabilities: A review. *Pediatrics*, June 1984, *73*, 824-829.

Reviews the opthalmologic, optometric, and psychological literature related to the relationship between reading failure and perceptual ability to determine the validity of visual-motor training for reading disorders. The reviewers present the limitations of the research in studies of ocular characteristics, as well as the research on the perceptual aspects of vision of average and disabled readers. They further examine studies testing the effectiveness of visual training on reading ability. Among the reviewers' conclusions were that children with reading disabilities did not differ from those with normal reading skills with regard to their perceptual

capabilities. Ocular factors seemed, at best, minimally related to reading disabilities. Visual-motor perceptual training programs produced no further improvement in reading ability for poor readers when compared with reading ability of children in control groups.

HICKS, CAROLYN. Remediating specific reading disabilities: A review of approaches. *Journal of Research in Reading*, February 1986, *9*, 39-55.

Reviews a number of remedial techniques used with children with specific reading disabilities (SRD) and presents the empirical evidence for and against each. Approaches are classified under three main divisions: process approaches, specialist methods, and modality/treatment interaction methods. The author concludes that process approaches which train children on prerequisite skills of reading such as visual and auditory perception are ineffective and ill-founded. Specialist approaches are those which have been specifically developed for SRD children and assume SRD is a homogeneous problem. All require specialist training, materials, and either one-on-one or small group instruction. Among the specific approaches reviewed under this heading are Orton-Gillingham, Fernald, and Bannatyne's Colour Phonics. The modality preference/treatment techniques also assume that auditory and visual modalities are critical but that instructional programs should be constructed to meet an individual's specific needs and modality preferences. Research in both of these latter two areas is equivocal and questionable.

HATCH, J. AMOS, & BONDY, ELIZABETH. A double dose of the same medicine: Implications from a naturalistic study of summer school reading instruction. *Urban Education*, April 1984, *19*, 29-38.

Conducts a naturalistic study of summer remedial reading instruction. Data were collected in two urban elementary schools and included classroom observations, interviews, classroom maps, samples of instructional materials, lesson plans, and student work. About 20 hours of observations were completed in each of two primary grade classrooms, both of which were second- and third-grade combinations. The article presents a summary of the findings. The district basal series exerted a strong influence on the summer program. Children were promoted or retained based on performance on the criterion-referenced tests accompanying the basals. Teachers expressed the opinion that their task was to take pupils through the basal materials that had been failed during the regular school year. Reading instruction was skill based with an emphasis on workbook pages. The focus was on the products of reading as opposed to the process; additionally, instruction was piecemeal and disconnected. Teachers' behaviors included having pupils read orally and silently; asking questions, prompting, and correcting; and making assignments.

HAWKINS, SUE. Early intervention in preventing reading problems. *Academic Therapy*, November 1985, *21*, 193-197.

Presents brief case histories of two boys identified in kindergarten as likely to experience problems in learning to read. Both boys were enrolled in a university-related summer reading program, and each child was tutored daily for one hour during a five-week program. The first case, had been referred for testing by his kindergarten teacher and had been diagnosed as a learning disabled child with an attention deficit disorder. His IQ was in the low average range, and he exhibited problems in fine motor coordination. His program consisted of being read to daily, dictating stories, selecting words from those stories to be placed on word cards, and making new sentences with those cards. He also was involved in activities to improve fine motor coordination. Specific recommendations were sent to his school at the end of the program. A follow-up conference indicated that he had succeeded in reading during his first grade year. The second case, in the bright normal range of IQ scores, had repeated kindergarten because of developmental delays and emotional problems. He was referred to the reading center by a psychologist who had also diagnosed him as having ex-

pressive language problems. His program consisted of a language experience approach, listening to and reading children's literature, as well as tasks of increasing difficulty introduced to promote a more positive self concept. He also learned to read in first grade. His continuing support services included enrollment in the reading center for two more summer sessions, attending a motor development laboratory program, part-time placement in a special education resource room, continued appointments with a psychologist, and a structured supportive home environment.

STRONG, MARY WINIFRED, & YUREK, ELAINE TRAYNELIS. An individualized remedial reading program using neurological impress. *Reading Improvement*, Spring 1986, *23*, 27-31.

Reports a project that sought to improve word fluency in reading in a population of elementary children who had demonstrated a deficiency. Involved were 52 subjects, 26 in experimental rural schools and 26 in urban schools that acted as controls. The *Otis-Lennon Mental Abilities Test* was administered to all pupils, with those who scored in the 80 to 90 IQ range in grades two to six being selected for a matched pair statistical design. The Neurological Impress Method was employed in this rural, experimental setting. Each pupil attended a 15-minute session four times a week for six months; on the fifth day the child was given a reward session for accumulating four attentiveness points. A paraprofessional worked with pupils and consulted with the classroom teacher concerning materials and placement throughout the duration of the study. The *Slosson Oral Reading Test* (SORT) and a criterion referenced test (CRT) were administered as pretests with the SORT administered again in five months, and the CRT seven months later. Results revealed no differences in gains between the two groups on the SORT and CRT. However, an attitudinal assessment indicated positive changes in behavior and attitude in the experimental school pupils.

TRAYNELIS-YUREK, ELAINE. Preferred versus non-preferred hand: A comparative study. *Academic Therapy*, September 1985, *21*, 29-36.

Uses a case study method in investigating hand superiority for tactile processing in remediating reading by a small group (only four completed training) of elementary school age boys. Each was given 30-minute instructional periods, beginning with the use of the preferred hand for the first 10 sessions, then an equal number of nonpreferred handedness periods. Use of hand was alternated with each series of 10 lessons for 40 to 60 lessons. In the lessons, boys were asked to trace and retrace words with their index finger until they felt they could write the word from memory. At the end of the tenth session, all words were checked for mastery. Boys learned more words with the nonpreferred hand than with the preferred hand. All boys increased the number of words they learned in each set of instructional periods regardless of the hand used.

MAGINNIS, GEORGE H. An evaluation of a non-visual method. *Journal of Learning Disabilities*, April 1986, *19*, 215-217.

Describes a study evaluating a nonvisual method of teaching words to remedial readers. Subjects ranged in age from 7 to 14 years, had at least normal IQs, and were reading at least one year below grade placement. Children were randomly divided into a Visual (n = 18) and a Non-Visual (n = 16) group and were individually tutored for 15 minutes per week for four weeks on the first 10 words they missed on the *Slosson Oral Reading Test* (SORT). Additionally, pretest measures included the *Developmental Test of Visual Perception* (DTVP) and a spelling test on the first 10 words misread on the SORT. In the Non-Visual group, a child was blindfolded and the word to be learned was traced on his/her back as the teacher spelled it aloud. The child also traced the word, while still blindfolded, on three-dimensional letters. One week after the fourth tutoring session, the SORT and the 10-word spelling test were readministered. Children taught by the Visual approach learned to read an average of

9.7 words; those taught by the Non-Visual approach, 8.9 words. Children with low perceptual quotients as determined by the DTVP fared better under the Visual approach than under the Non-Visual. Spelling test scores revealed no difference between the two groups.

GRANT, SR. MARIE. The kinesthetic approach to teaching: Building a foundation for learning. *Journal of Learning Disabilities*, October 1985, *18*, 455-462.

Compares the results of a kinesthetic approach to teaching with the results of a conventional auditory-visual instructional program for 44 middle- to upper-middle-class children, taught in the first grade and then tested in the subsequent three grades. Experimental group children were selected from among children considered "at-risk" based on their ratings on a checklist completed by their kindergarten teachers and related to their kindergarten achievement. Control group children were matched for IQ, but were not considered by their kindergarten teachers to have a high risk for failure. Procedures differed for the teaching and ordering of reading, writing, and spelling for the two groups in first grade only. Test results upon entry to first grade showed lower scores in adjustment to task, cooperation, mental habits, speech, hand-eye coordination, and language for the at-risk group. Follow-up testing was with the *Stanford Achievement Test*. By entry to fourth grade, the at-risk children matched or surpassed the non-risk children in Word Meaning, Paragraph Meaning, Spelling, Word Study Skills, and Language.

SACHS, ARLENE. Accessing scripts before reading the story. *Learning Disability Quarterly*, Summer 1984, *7*, 226-228.

Examines the effects on silent reading comprehension of learning disabled readers' participation in activities designed to access scripts before reading. Subjects (n = 24), who were aged 8.0 to 9.11 years, were one to two years below their grade placement in silent reading comprehension as measured by the *Ginn 720 Informal Reading Inventory*. Subjects worked individually with a graduate student teacher on a series of stories from a basal reader. Each subject participated in two conditions: a plans-and-goals condition, and a conceptual-overview statement condition. In the former, as a preview the teacher asked questions focusing on the plans and goals of the main character in the story. In the latter condition, the teacher discussed the primary goals of the main character in the story. The conditions were systematically alternated and counterbalanced. After silent reading, five questions were administered orally to assess knowledge of the main character, his/her plans, the main idea of the story, and scriptual information about each story idea. Tests were scored by two independent raters, with 96.5% agreement. The plans-and-goals activity had an effect on comprehension ($p < .001$), with no effect for stories, nor any interaction effects.

IDOL-MAESTAS, LORNA. Getting ready to read: Guided probing for poor comprehenders. *Learning Disability Quarterly*, Fall 1985, *243-254*.

Addresses the effect of an advance organizer technique on the performance of poor comprehenders. In a series of two experiments subjects were asked to complete a set of preliminary exercises with their teacher prior to story reading. The strategy consisted of a set of guided probes that could be represented by the acronym TELLS, Fact or Fiction. The steps were: study story titles (T), examine and skim pages for clues as to what stories are about (E), look for important words (L), look for hard words (L), think about the story setting (S) and decide whether the story is fact or fiction. In Experiment 1, four elementary-aged pupils from learning disabilities resource rooms were randomly assigned to two teachers enrolled in a graduate class. Subjects were placed in one of two editions of basal series in which they could demonstrate specified performance criteria. Baseline data were collected for each child on a timed sample of oral reading monitored for accuracy, rate, and comprehension. The intervention condition consisted of TELLS. After stable performance conditions were achieved, subjects were returned to baseline conditions. The TELLS intervention was found

to improve baseline performance and grade equivalency scores on the *Gray Oral Reading Test*. Three subjects exhibited substantial decrease in performance when the intervention was removed. Subjects in Experiment 2 were two male 12th grade students enrolled in special education classes. Procedures and design followed the first experiment. The TELLS strategy again produced improved comprehension performance and both subjects maintained improved inferential comprehension when the teacher-guidance was removed.

NELSON, NICKOLA WOLF. An eclectic model of language intervention for disorders of listening, speaking, reading, and writing. *Topics in Language Disorders*, March 1981, *1*(2), 1-23.

Presents implementation data from a program based on an eclectic model of language intervention. Children enrolled in one midwestern county learning and language impaired (LLI) classroom were given opportunities within an instructional program to concentrate alternately on structured activities that focused on the form of language, and on natural experienced-based learning activities that focused on its content and use. The model sought integration as an alternative to the dissonance often associated with the instructional emphases of various specialists working with LLI children. Teachers with certification in the area of learning disabilities provided instruction. Pretest and posttest results are presented for 43 preschool and school age children who took part in the program from 1977 until 1980. Gains in months for students are plotted and mean classroom gains reported for the *Test of Auditory Comprehension of Language*, *Test of Language Development*, *Peabody Individual Achievement Test*, and the *Sequenced Inventory of Communicative Development*.

WEINSHANK, ANNETTE B.; POLIN, RUTH M.; & WAGNER, CHRISTIAN C. Learning from experience to improve outcomes in reading: A case study. *Reading Horizons*, Summer 1985, *25*, 253-263.

Presents a case study of a junior high school remedial reading teacher's attempts to make changes in her instructional practices when provided with diagnostic information about 23 of her students, all of whom were reading two or more years below grade placement level. Five groups of four to six students came to the reading room for 25-minute periods four days per week between October and May. The teacher's goals were primarily directed toward improving students' word recognition and fluency. A diagnostic battery was administered individually by trained testers at the beginning and end of the year. The battery provided data on seven variables: word recognition grade level, decoding accuracy, oral reading grade level based on oral reading rate and accuracy, silent reading rate and comprehension, and listening comprehension grade level based on percentage of passage recall. The teacher received numerical and graphic interpretation of individual and mean scores for each diagnostic category before and after instruction. Students read orally twice during each session after mastering a vocabulary list. Silent reading occurred between oral reading sessions. The teacher recorded oral reading performance noting date, pages, elapsed time, and words miscalled during each session. Outcome results supported the differential effects of the teacher's instruction as gauged by the diagnostic tests. Students had a mean gain in oral reading accuracy as measured by number of miscalls of two grade levels; mean words per minute remained unchanged. The mean gain in word recognition was 1.3 years. The mean gain in silent reading comprehension was .5 grade level. Listening comprehension showed no change. Results showed that the greatest gains were made by the students who entered achieving farthest below their grade placement level.

WADE, JOSEPH, & KASS, CORRINE E. Component deficit and academic remediation of learning disabilities. *Journal of Learning Disabilities*, January 1986, *19*, 23-25.

Compares the effects of direct academic instruction and psychological process remediation for 76 learning disabled (LD) children, aged 8 to 11. The *Stanford Diagnostic Reading Test* (SDRT) was used for identifying academic deficiencies and for gauging gains after

remediation treatments. Children were randomly divided into two equal groups for a nine-week remediation period under the direction of 27 certified LD teachers. One groups received three weeks of component deficit remediation (based on a developmental theory of deviance) and six weeks of academic deficit remediation; the second group received only academic deficit remediation. To investigate the immediate effect of component deficit remediation on the criterion measure, half of Group One took the SDRT before any remediation and half took the test after the component deficit remediation (first three weeks). Scores on the SDRT for children having component deficit remediation plus academic deficit remediation were higher than scores on the SDRT of children having academic deficit remediation only, when effect size analyses were used. Effect size, a measure of treatment effectiveness, was calculated by finding the difference between the means of the experimental and control groups divided by the control group standard deviation. In addition, scores on the SDRT improved immediately after component deficit remediation on every subtest when effect size analyses were made. The effect size values ranged from the highest for Auditory Vocabulary (.5853) to the lowest for Phonetic Analysis (.1089). The average effect size for all subjects was .3899, indicating a high level of improvement in general.

FUCHS, LYNN S.; DENO, STANLEY L.; & MIRKIN, PHYLLIS K. The effects of frequent curriculum-based measurement and evaluation on pedagogy, student achievement, and student awareness of learning. *American Educational Research Journal*, Summer 1984, *21*, 449-460.

Examines the educational effects of repeated curriculum-based measurement and evaluation on the reading skills of handicapped children. Thirty-nine New York City special education teachers, each having three to four pupils in the study (n = 141), were assigned randomly to a repeated curriculum-based measurement/evaluation treatment (n = 18) or to a control group (n = 21). Using a data-based program modification model (DBPM), experimental teachers wrote curriculum-based IEP goals and objectives and developed curriculum-based measurement systems to match goals. They assessed oral reading performance at least twice weekly and implemented a data-utilization rule that required them to introduce a program change when pupil progress appeared inadequate for goal attainment. Contrast teachers set goals and monitored progress as they wished. Experimental teachers were provided weekly training in DBPM; contrast teachers were taught a variety of skills and strategies, including diagnosis and treatment of learning and social problems. Over the 18-week implementation period, pedagogical decisions were surveyed twice; instructional structure was observed and measured three times; pupils' knowledge about their learning was assessed during a final interview; and reading achievement was tested before and after treatment using the Structured Analysis and Reading Comprehension subtests of the *Stanford Diagnostic Reading Test*. Analyses of covariance revealed that children with experimental teachers had higher achievement. Additional analyses indicated that: a) experimental teachers' decisions reflected greater realism about and responsiveness to pupil progress; b) their instructional structure demonstrated greater increases; and c) their pupils were more aware of goals and progress.

ELDRIDGE, BRUCE H. Reading on context: An alternative approach for the adolescent disabled reader. *Journal of Reading*, October 1985, *29*, 9-17.

Describes a program used over a three-year period for teaching a junior-high student diagnosed as a functional nonreader to read. The boy was of average intelligence, identified as learning disabled, and had been in the special education resource program since kindergarten. An evaluation completed by a university clinic during the child's fourth grade year indicated that he could identify 20 sight words and was overly attentive to decoding. Based on recommendations of the clinic, he received no further reading instruction from his fourth through his sixth grade year. Upon entering junior high, he had an oral reading score of 1.8 on the *Spache Diagnostic Reading Scales*. The specific program that was implemented within the resource room beginning in seventh grade included opportunities for dictating and read-

ing in context, forming stories by combining words and sentences from the dictation, writing assignments that included both copying and comprehension activities with the dictated stories, oral rereading of passages, reading short commercially printed passages, and reading novels. Yearly retesting on the Spache showed growth in Word Recognition from 2.3 in sixth grade to 6.5 at the end of ninth grade. Growth in Oral Reading was from 1.8 to 7.5. On the *Gates MacGinitie Reading Test*, grade equivalents for Vocabulary, Comprehension and Total were 6.0, 4.1, and 5.2, respectively.

HOLMES, BETTY C. The effects of a strategy and sequenced materials on the inferential comprehension of disabled readers. *Journal of Learning Disabilities*, November 1985, *18*, 542-546.

Seeks to determine whether teaching disabled readers a structured inferencing strategy, using materials sequentially arranged from easy to more difficult, would improve their ability to answer inferential questions and enhance their attitudes toward reading. Subjects consisted of 24 fourth- and fifth-grade poor readers attending a low socioeconomic urban school who were randomly assigned to one of four groups: Strategy plus Materials, Strategy Only, Materials Only, and a Control. All groups experienced a discussion of question/answer relationships, unison oral reading of the passages, and opportunity to listen to a recorded segment of each session. The experimental strategy used with the Strategy plus Materials and Strategy Only groups included teacher modeling and student modeling of a directive inferencing strategy. The Materials Only group and the Control group answered inferential questions following oral reading and substantiated their responses but received no experimenter input. Alternate forms of the *Nelson Reading Test*, an experimenter-designed attitude scale, and a set of 20 inferential questions related to paragraphs adapted from second and third grade workbooks served as pre- and postassessment. An analysis of covariance revealed that the Strategy plus Materials group scored significantly better than the other three groups on experimenter-designed inference questions. In addition, the Strategy plus Materials group and the Materials Only groups scored significantly better ($p < .01$) than the Control group on the *Nelson Reading Test*. Gain scores showed that all groups improved significantly from the pretest to the posttest on answering inferential questions. There were no significant differences among the four groups on the reading attitude scale.

LOVITT, THOMAS; RUDSIT, JAMES; JENKINS, JOSEPH; PIOUS, CONSTANCE; & BENEDETTI, DINA. Adapting science materials for regular and learning disabled seventh graders. *Remedial and Special Education*, January/February 1986, *7*(1), 31-39.

Reports a study conducted with 202 seventh graders, 30 of whom had been labelled learning disabled (LD), who were enrolled in one of seven physical science classes for a 12-week period and for whom instructional materials were adapted. Six chapters of a nationally known physical science text, two kinds of pretests and posttests over the materials (multiple choice, matching, and extra credit, and a write-facts assessment), and adapted materials served as stimuli during the study. Adapted materials were of two types; a Precision Tending (PT) approach for vocabulary words and definitions, and a Study Guide (SG) involving a framed outline of the chapters' main ideas. Procedures were used in both the special education resource room with 13 of the LD children and in the regular science classrooms. Test data from adapted and nonadapted chapters were compared. Significantly higher scores for both LD and nondisabled pupils were obtained on adapted materials. Write-facts quizzes were not sensitive measures of pupil performance. When combined scores were compared for adapted or nonadapted materials, scores favored the adapted materials, although the differences were not statistically significant. Teachers were asked for opinions about the exercises, the tests, and the textbook. The teachers responded favorably to the adapted texts. No distinctions were made between the two types of adapted materials.

SACHS, ARLENE. The effects of three prereading activities on learning disabled students' reading comprehension. *Learning Disability Quarterly*, Summer 1983, *6*, 248-251.

Examines effects of three prereading activities on reading comprehension of 36 learning disabled (LD) children. Subjects were randomly assigned into three treatment groups with each child individually participating in three 45-minute instructional sessions. Prereading activities consisted of: 1) a modified *Directed Reading Activity* (DRA); 2) a modified *Concept Analysis Activity* (CAA); and 3) a *Worksheet Activity* (Control). Each child was exposed to all three prereading activities, three stories and three tests. Each test consisted of 12 items evenly divided across four levels of comprehension: literal, inferential, evaluative, and appreciative. Repeated one-way analysis of variance and Newman-Keuls procedures were used for analysis of data. No significant differences were found for the three prereading activities. Results indicated that evaluative reading comprehension is affected by both a modified CAA and a modified DRA.

GARNER, RUTH; HARE, VICTORIA CHOU; ALEXANDER, PATRICIA; HAYNES, JACQUELINE; & WINOGRAD, PETER. Inducing use of a text lookback strategy among unsuccessful readers. *American Educational Research Journal*, Winter 1984, *21*, 789-798.

Offers a strategy for employing text lookbacks for the retrieval of unrecalled information required for answering questions. Twenty-four elementary remedial pupils who were decoding proficient but one year below assigned level on comprehension were randomly assigned to training and control groups. Six expository passages were drawn from a supplementary series. Children read 200-word passages followed by two text-based and one reader-based question. A textbook lookback was taught to the experimental group in three sessions. Subjects were taught why to use lookbacks, as well as when and where to use them. Five days after training was completed, all experimental and control group members were assessed for use of lookbacks and questioning-answering accuracy. Significant differences between training and control groups were found both for percentages of correct answers with lookbacks (for questions not answered correctly from memory) and for percentage of lookbacks used (sometimes leading to an accurate answer, sometimes not) when needed.

BROWN, JAMES D.; YONGPEI, CHEN; & YINGLONG, WANG. An evaluation of native speaker self-access reading materials in an EFL setting. *RELC Journal*, June 1984, *15*(1), 75-84.

Evaluates the effectiveness of two sets of self-access reading materials, designed for independent classroom use by American elementary students, used to train Chinese scientists learning English as a foreign language. The 118 subjects, all students at the Guangzhou English Language Center in the People's Republic of China represented engineering (42%), chemistry (26%), biology (11%), agriculture (7%), physics (2%), and other fields (12%). The students were predominantly male (83%) and ranged in age from 27 to 48 years. All students took the placement examinations provided with the materials as well as *A Test of English as A Foreign Language: Reading* (TOEFL:R) and the *Michigan Placement Test*, reading subtest, (MPT:R) at the beginning and end of a 10-week training period. Students used the materials, consisting of two sets of cards with reading passages and multiple-choice comprehension questions, for a minimum of one-hour per day for a total of about 50 hours. Analyses included evaluations of the amount of scientific subject matter included in the materials, the accuracy of readability estimates, the reliability and validity of the placement tests for these students, and the students' attitude toward the program materials. Results indicated that the two sets of cards did represent scientific subject matter (27% and 37%, respectively). Fry Readability estimates verified a progression in the mean difficulty levels, but, in addi-

tion, there was variation in difficulty within reading levels. There was a statistically significant ($p < .01$) difference between pre- and posttest mean scores on the TOEFL: R and on the placement test. Reliability coefficients indicated that placement tests were less reliable than TOEFL: R and the MPT: R. In addition, no more than 25% of the variability of placement test scores was shared with the criterion measures, indicating that the placement tests did not appear to be measuring the same abilities as the standardized measures. The students indicated through questionnaire items that they found the materials to be useful.

LIMBRICK, ELIZABETH; MCNAUGHTON, STUART; & GLYNN, TED. Reading gains for underachieving tutors and tutees in a cross-age tutoring programme. *Journal of Child Psychology and Psychiatry & Allied Disciplines*, November 1985, *26*, 939-953.

Describes a cross-age tutoring program in which both tutors (n = 3, 10-11 years) and tutees (n = 3, 6-8 years) were underachieving readers. The program employed a modified paired reading technique in which concurrent reading by tutor and tutee takes place, error correction is delayed, discussion of the passage occurs before and after reading, and praise is offered for reading independently. A three-phase multiple baseline across subjects design was employed: Phase One involved obtaining reading accuracy and comprehension data on the children's classroom reading behaviors. Phase Two tested whether useful tutoring behaviors would occur spontaneously without specific instruction. In Phase Three, tutors were trained and instructed tutees in 15-minute sessions three times weekly for 6, 8, and 10 weeks respectively. All of the tutees gained in accuracy and comprehension significantly more than their low-progress peer controls, gaining twice as much in accuracy and four times as much in comprehension as measured by the *Neale Analysis of Reading Ability* (NARA). The major gains occurred over the course of the trained tutoring phase. Reading gains ranged from 6 to 22 months on standardized and informal measures for tutees and 4 to 24 months for tutors on the NARA. Classroom measures supported these gains for tutees (9-12 months) and tutors (6-12 months). The researchers concluded that the children's achievements in reading accuracy and comprehension resulted from specific tutoring practices and not just from increased reading opportunities.

CLEGG, BLANCHE E., & LEQUE, LYNDA C. Increasing sight word learning and self-esteem through peer tutoring of low-achievers. *Kentucky Reading Journal*, Winter 1986, *7*(1), 8-14.

Examines the effects of peer tutoring on achievement and self-esteem of low-achieving pupils in a primary special education program. Of specific interest were sight work skills. Involved were an experimental group of 14 boys and 8 girls whose intelligence placed them in the dull-normal range and a control group of 8 boys. Children ranged in age from 5 to 9 years. The *Dolch Basic Sight Vocabulary List* of 220 words was administered to all on a pre- and posttest basis. The children in the experimental group were randomly paired into tutor-tutee partners; the controls received no treatment. Tutors received three 15-minute training periods and then met with their partners four times a week over a six-week period in 10-15 minute sessions, employing flashcards of words missed on the Dolch pretest. At the conclusion of the sessions, the Dolch and the *Plummer Self-Esteem Inventory* were administered. Gains in sight word recognition varied greatly among subjects in the experimental group. There was no significant difference between the sight word recognition posttest scores of the experimental and control groups. Likewise, analyses of responses on pre- and posttesting on the Self-Esteem Inventory yielded no significant differences between groups.

COOLEDGE, NANCY J., & WURSTER, STANLEY R. Intergenerational tutoring and student achievement. *The Reading Teacher*, December 1985, *39*, 343-346.

Assesses the effectiveness of the Volunteer Partners Program (VPP) in achieving gain scores in reading, math, and grammar. The VPP utilized retirees as tutors. The sample consisted of 147 subjects in grades 2-12 from five different school districts who were tutored and a matched group who had not received special help. Both volunteer tutors and participating teachers were given training. Tutors worked in the back of the classroom and spent an average of 87 hours from October through May in helping with reading, math, or language arts. Scores on the *California Achievement Tests* were used to determine gain. Tutored children made a significantly greater gain in reading than did controls.

FRESKO, BARBARA, & EISENBERG, THEODORE. The effect of two years of tutoring on mathematics and reading achievement. *Journal of Experimental Education*, Summer 1985, *53*, 193-201.

Designs a two-year evaluation of the PERACH Tutorial Project, a tutoring program engaging university students to work with children from socially disadvantaged backgrounds in Israel. The evaluation focused on four groups of children: children tutored for two years, children tutored for one year, a control group, and a comparison group made up of other children in the class. The 456 children came from eight elementary schools. In four schools, both third and sixth graders were subjects, while in four schools, either third or sixth grade was used. Achievement test data in reading comprehension and mathematics were collected at the start of each school year and again at the end of each school year. In mathematics, children tutored for one year increased scores more than control children at both grade levels. However, children tutored two years progressed less than controls at grades four but more than controls and about the same as one-year tutees in grade seven. In reading, gain scores tended to be similar for all groups. There did not appear to be an advantage of two years of tutoring over one year.

LOVE, JOAN M., & VAN BIERVLIET, ALAN. Training parents to be home reading tutors: Generalizations of children's reading skills from home to school. *The Exceptional Child*, July 1984, *31*, 114-127.

Evaluates results of a program for teaching mothers of mildly retarded children to be home reading tutors. Four mothers participated in a five-week preparatory training program designed to equip them to act as home tutors. Children ranged in IQ between 60 and 70 and in CA between 9 and 10. Pretraining, training, and maintenance observations of mothers occurred approximately fortnightly, and then at monthly intervals. Samples of children's oral reading at both familiar and new material were collected for analysis. In addition, percentages of tutor's delayed attention to errors, prompting and modeling, and praise statements were determined. The percentage of total errors that received tutor attention (praising, prompting, or modelling) was high, ranging from 65% to 100% in individual sessions, although overall there was a slight decreasing trend, with means of 87%, 83%, and 80% over the pretraining, training, and maintenance phases. Children's reading behaviors were assessed for accuracy, number of errors, self-corrections, and prompted corrections. During intervention and maintenance phases, substantial increases in targeted tutor behaviors and corresponding improvement in child reading behaviors were noticed. Improvement in the children's home reading performances, particularly self-correcting, generalized to the classroom setting.

HOOKER, JEAN. Parent volunteers improve reading in a secondary school. *Australian Journal of Reading*, August 1985, *8*, 142-151.

Describes and evaluates a training program for parent volunteers working with students in reading in an Australian high school. Approximately 40 parents and 79 students were involved. Students met individually with tutors for a 40-minute period weekly from March to November. Parents were asked to maintain a log book on each student. Oral reading was used in the beginning stages of tutoring, with other materials and techniques introduced as each reading pair established a sound relationship. In the six months between pre- and posttesting, targeted students gained an average of 12 months of reading age while a control group gained an average of 3.6 months. Over 80% of students wanted to continue their involvement the next year. By year's end, many of the parents (80%) felt free and confident enough not to rely wholly on the reading coordinator for direction, but were engaging in the making of some reading decisions independently.

SWINSON, JEREMY M. Paired reading: A critique. *Support for Learning*, May 1986, *1*(2), 29-32.

Reviews and discusses selected reports on the paired reading approach, wherein parents and children take turns listening to each other read. Argues that the most important ingredient in all of the various approaches to paired reading is the child's reading to the parent every night. Concludes that teachers should recommend to parents that parents frequently listen to their children read.

ADAMEK, VALERIAN. Reading failure: A preventable phenomenon. In Jonathan Aderson & Kate Lovett (Eds.), *Teaching Reading and Writing to Every Child*. Adelaide, South Australia: Australian Reading Association, 1983, 178-189.

Tests the hypothesis that children who appear to have persistent and unremediable reading difficulties have failed to understand the alphabetic principles of English writing. The researcher contends that the sound system of English may be organized loosely into four categories. The first category is made up of all the words that can be read by knowing the 26 letters plus *th*, *ch*, *sh*, *ph*, and the four sounds of *y*. Words in the second category include those with long vowels, instances of the *c* and *g* rule, or digraphs. The third category consists of words that have special rules of their own, such as the family of *alm* or *igh*. A final category consists of words that do not fit any of the other three, such as *laugh*. Nine children with severe reading difficulties were given tests requiring that they 1) recognize 10 polysyllabic Category One words, 2) read for one minute from a passage in a reader written entirely with Category One words, and 3) demonstrate reading age on the *Schonell Reading Test*. Results showed that none of the children had completely mastered the principles of reading within Category One. The mean number of polysyllabic words recognized was one. The mean reading rate was 36 words per minute. Mean number of errors on the reading passage was 6.3 (range 2-13) and the mean reading age was 7.2 (range 5.5-9.2). Parents were trained to teach and reinforce the principles represented by the categories, and each child was given intensive practice in Category One reading. After children achieved criterion cut-offs with Category One words (80 wpm with fewer than five errors, and recognition of a polysyllabic word within five seconds), they were taught the rules governing Category Two vocabulary and given practice with corresponding texts. Training was completed in two weeks and retesting was conducted after four weeks. Mean polysyllabic word recognition was 9.5 (out of 10); mean reading rate was 84 wpm with 2.1 errors. The reading age mean was 8.3 and the mean improvement, 1.1 years.

V-12 Teaching bilingual/other language learners

HARRIS, JOHN. Research on reading in a second language. *Oideas*, 1982, *26*, 14-20.

Summarizes some issues and findings in second language research with particular attention to Irish-English readers. Evidence is cited for decline at some class levels in Irish reading. Additional research is cited to support the contention that English speaking children do not in general read Irish as well as their Irish speaking counterparts. Basing arguments on a psycholinguistic model, the reviewer proposes and supports factors that contribute to the dissonance between first and second language reading achievement: 1) poorer performance of second language readers may be attributed in part to a reduced ability to predict in a less familiar language; 2) differences in eye movements may be due to the second language reader's relative inability to use contextual constraints; 3) differences that exist in perception, memory, cognition, and basic linguistic competence between younger and older readers make generalizations difficult; and 4) effects of early introduction of second language learning depends upon the status of the two languages, the potential for the first language to be replaced by the second, freedom of choice between first and second language learning, and the degree of parental involvement and support.

HAMP-LYONS, LIZ. Two approaches to teaching reading: A classroom-based study. *Reading in a Foreign Language*, Spring 1985, *3*, 363-373.

Explores the influence of two approaches to teaching English as a Foreign Language (EFL) on the reading progress of 24 non-native speakers of English enrolled in reading classes at a midwestern university. Approach 1 (traditional) followed a structuralist-behaviorist view of language and an audio-lingual view of language teaching. Approach 2 (text-strategic) followed a communicative language teaching/learning theory. The instructor was the same for both groups. A second instructor taught a control group, using the traditional approach. All 24 subjects took a 50-item cloze test as a pretest before group assignments were made. Sixteen weeks later, the same test was given as a posttest. Mean scores for all groups were significantly different on the posttest. The text-strategic group had a higher posttest mean and a larger gain score than either of the other groups. Differences were statistically significant. Differences between the two groups receiving the traditional approach were not significant.

PEGOLO, CATHERINE. The role of rhythm and intonation in the silent reading of French as a foreign language. *Reading in a Foreign Language*, Spring 1985, *3*, 313-327.

Compares the effects on silent reading comprehension in French as a foreign language of explicit (perceptually enhanced) and implicit (normal) prosodic input. Three experiments were reported. In the first two, 15 university students served as subjects; in the third, 59 eighth graders were utilized. For Experiment 1, subjects had completed two semesters of introductory French; in Experiment 2, subjects had finished one semester of introductory French; and in Experiment 3, children had no French. A series of 50-80 word French texts were used. In the control groups, normal rate and normal prosodic patterns were used in recording texts to be listened to while reading along—silently or aloud. For experimental groups, the tapes were prepared so that texts were read at a slower than normal rate, with melodic patterns exaggerated, and longer pauses between chunks. Reading sessions in the three experiments occurred in 15 twenty-minute sessions over a 12-week period in Experiment 1. There were 13 ten-minute sessions over 10 weeks in Experiment 2, and 12 ten-minute sessions over 15 weeks in Experiment 3. Comprehension was assessed by literal questions and by uncued recall in 2 and 3, and by cued recall in Experiment 1. Comprehension results were superior in the experimental groups in all experiments.

NEHR, MONIKA, & RIEHL, ASTRID. Learning to read foreign languages: Some new experimental evidence. *Journal of Research in Reading*, February 1984, *7*, 3-13.

Presents results from three experiments designed to test the necessity of audiolingual training in learning to read a foreign language. The three experiments differed in the foreign language studied: Serbocroatian (Cyrillic script), Serbocroatian (Roman script), and Japanese. For each experiment German native speakers served as subjects (n = 108) and were randomly assigned to one of three treatment groups, with each group asked to study the same self-instructional written program. Group A received additional learning time, Group B received audiolingual training, and Group C received the same amount of learning time for the written program as Group B. The follow-up test consisted of three sections: 1) grapho-morphological analysis, 2) morphosyntactic analysis, and 3) translation into German of a text on air pollution. The first two sections reflected the substance of the written program directly, while the third section was a new task. One-way analysis of variance revealed significantly better results for the two non-audiolingual groups in the Serbocroatian-Cyrillic and Japanese experiments. The authors contend that learning to read a foreign language is related to the development of a relatively autonomous language ability and that audiolingual behavior is not a prerequisite.

DARCH, CRAIG, & GERSTEN, RUSSELL. The effects of teacher presentation rate and praise on LD students' oral reading performance. *British Journal of Educational Psychology*, November 1985, *55*, 295-303.

Investigates the effect of teacher presentation rate and use of praise on learning disabled (LD) children's accuracy in oral reading and on-task behavior. Four pupils (Male = 3; Female = 1), ranging in age from 7.8 to 8.6 years and identified as LD by school psychologists, were taught beginning reading skills with a direct instruction program, Distar Reading I. The teacher systematically varied the rate of instructional presentation (rapid pace vs. slow pace) and frequency of praising (praise vs. no praise). A modified reversal design with replication across subjects was used to evaluate both the isolated and interactive effects of the individual instructional components. Experimentation lasted 25 school days; experimental intervention was given the first 20 minutes of a 45-minute daily period. Dependent variables were the percentage of correct responses to teacher questions or directions and the percentage of on-task behavior, calculated using a 10-second time-sampling technique. The results indicated that increases in teacher presentation rate and increased use of praise led to improvement in levels of on-task behavior and correct responses. Each of the variables in isolation had an effect. Praise appeared to be more powerful than presentation rate. The combination of the two variables had the most powerful effect.

VIERA, DIANA RIVERA. Remediating reading problems in a Hispanic learning disabled child from a psycholinguistic perspective: A case study. *Journal of Reading, Writing and Learning Disabilities International*, 1986, *2*(1), 85-96.

Reports a case study on a seven-year-old Puerto Rican male who had been referred to the learning disabilities specialist for an educational evaluation. The subject was tested with a Reading Miscue Inventory (RMI), using a passage from a basal text developed for Spanish-speaking countries. Using the RMI profile, a remedial reading program was planned. The subject worked with the learning disabilities teacher for one-hour sessions, twice a week for the duration of the school year. Strategies were also modeled for the parents, as they worked with the subject at home. A program stressing oral reading exercises, language experiences, rewritten storybooks, cloze exercises, word attack activities, and textbook passages was implemented. At the end of the ninth month, the subject was retested with an RMI. Results indicated shifts in reading strategies and higher comprehension percentages after the ninth-month treatment.

BENSOUSSAN, MARSHA; SIM, DONALD; & WEISS, RAZELLE. The effect of dictionary usage on EFL test performance compared with student and teacher attitudes and expectations. *Reading in a Foreign Language*, Autumn 1984, *2*, 262-276.

Reports three studies investigating the effect of dictionary usage on English as a Foreign Language (EFL) test performance in two Israeli universities. In Study 1, 91 students took a 3-hour test under one of three conditions: no dictionary, a monolingual dictionary, or a bilingual dictionary. No significant difference was found among test scores of subjects in the three conditions. Students tended to look up more words when in the bilingual dictionary condition. No differences were found among groups of high, medium, or low language proficiency. Subjects in Study 2 were 670 students enrolled in a required course in EFL reading comprehension. Study 3 had 740 students from a similar course the following year. In Studies 2 and 3, more than half chose to use bilingual dictionaries, 20% monolingual dictionaries, and 21% no dictionary. No significant relation was found between test scores and dictionary use or between dictionary use or non-use and time taken to complete the test. A questionnaire on attitudes and expectations of dictionary users was administered to over 400 students and professors. Those who were most linguistically proficient were most critical of dictionary use and had fewer expectations for help from dictionaries. First year students and their faculty reported that these subjects lacked some necessary dictionary skills.

LEVINE, ADINA, & REVES, THEA. What can the FL teacher teach the mother tongue reader? *Reading in a Foreign Language*, Spring 1985, *3*, 329-339.

Investigates to what extent reading skills taught in a foreign language transfer to reading in the native language. Subjects were first-year university students and native Hebrew speakers who had been placed in an advanced English course in reading comprehension. Fifty-nine students who completed the course comprised the experimental group; 17 students who did not take the course were treated as a control group. All students were pre- and posttested on equivalent forms of a project-developed Hebrew reading comprehension test. Findings revealed that the experimental subjects, who had completed the 10-week course, scored significantly higher on the Hebrew posttest than did controls. Results suggested that reading strategies learned in a foreign language transferred to the native language.

WALTERS, KEN, & GUNDERSON, LEE. Effects of parent volunteers reading first language (L1) books to ESL students. *The Reading Teacher*, October 1985, *39*, 66-69.

Investigates the effects of a program of oral reading in first language (L1) and second language (L2) on reading achievement in English. Subjects for the study were 39 Cantonese speaking fourth graders from English as a Second Language classes in an innercity Vancouver, British Columbia school. Two Chinese and two English speaking parents were selected to read books to children. Children were divided into three groups and met twice weekly for 40 minutes to hear stories read aloud in 1) Cantonese, or 2) English, or 3) to participate in a catch-up time. Chinese books also were made available in classrooms for free reading or viewing. The *Gates-MacGinitie Reading Tests*, Level A, was administered as a pre- and posttest measure. All three groups made significant gains in English reading over the three-month period of the study. No significant differences among groups were noted.

V-13 Tests and testing

V-13a Factors in test performance

HOOPFER, LINDA M. An investigation into children's processing of standardized reading test questions. *Reading-Canada-Lecture*, Winter 1986, *3*, 304-311.

Probes the responses of six sixth grade children to two reading tests by asking them to explain the reasons for their answers. The children were designated as average readers by

their classroom teachers. All were individually administered the Word and Passage Comprehension subtests of the *Canadian Tests of Basic Skills*. Immediately following each subtest administration, children were asked for explanations of their choices. When scored following standardized procedures, 7 of the 24 scores fell within or above Grade 6 level. When rescored to include alterations and partially correct responses and to exclude responses based on faulty logic, 14 of the 24 grade equivalent scores were at or above Grade 6 level. Five possible categories were derived from the analysis of responses to indicate the types of difficulties which arose. Examples of pupil responses are given.

ESTES, ROBERT E.; BAUM, DOUGLAS L.; & BRAY, NANCI M. Standard and modified administrations of the Iowa Tests of Basic Skills with learning disabled students. *Perceptual and Motor Skills*, April 1986, *62*, 619-625.

Investigates the performance of 30 junior high school learning disabled students (Male = 21; Female = 9) enrolled in special education classes on standard and modified administrations of selected subtests from the *Iowa Tests of Basic Skills* (ITBS). CA ranged from 12-11 to 16-4 and IQ from 70 to 125. All students were administered two forms of four subtests of the ITBS (Reading Vocabulary, Reading Comprehension, Mathematics Concepts, and Mathematics Problem-solving) following both the standard procedures recommended by the test manual, and modified procedures in which the entire test was presented verbally by means of prerecorded tapes. Prior to administration, the remedial English and mathematics teachers estimated each student's grade performance level to the nearest month. The coefficient correlations between subtests of the standard and modified versions ranged from .61 to .82, with Reading Comprehension scores showing the strongest relationship. No significant differences were noted for coefficients between types of administration and teachers' ratings on any of the subtest comparisons. Grade placements for Vocabulary and Reading Comprehension using the modified administration were significantly higher than those using the standard administration and more closely aligned with teachers' ratings. Math Concepts and Math Problem-solving grade-placement scores did not differ by type of administration; teachers' ratings were higher than those produced by either testing format.

FRANKLIN, JR., MELVIN R.; FULLILOVE, RICHARD M.; & SABERS, DARRELL L. Woodcock analogies: Effect of additional practice and instruction for learning-disabled students. *Journal of Learning Disabilities*, November 1985, *18*, 521-523.

Assesses the effects of additional practice and revised directions on pupil performance on the analogies subtest (Word Comprehension) of the *Woodcock Reading Mastery Test: Revised*. Subjects were 44 seventh- and eighth-graders who had been previously classified as learning disabled and who were randomly assigned to four groups. The Solomon Four-Group design was employed in which two groups received 15 additional sample items and enhanced directions and two groups did not. Scores on the Word Identification subtest were used as a covariate and Mastery Scores on the Word Comprehension subtest were the dependent variable. A significant main effect for treatment was found favoring students who had received the additional instruction and practice.

KENNEY, JAMES B., & ANDERSON, JR., HARRY E. A comparative study of selected black and white university sophomore students on a required reading test. *Journal of Experimental Education*, Fall 1984, *53*, 20-28.

Reports on the reading test scores obtained during the 1982-83 Georgia Regents' Testing Program of 256 black and 3,009 white sophomores in four state universities. Additional information scrutinized included high school average, the verbal and mathematics subtests of the *Scholastic Aptitude Test* as well as first-year university grade point average. The reading

test consisted of 10 passages with four to eight multiple-choice items each. The overlap of score distributions for blacks and whites was consistent, though insignificant, on the aptitude/achievement variables as well as on the reading scores. Results revealed that on the reading subtest scores approximately 41% of black students scored so high that they looked, score-wise, more like white students; conversely, approximately 26% of the white students were scored so low that they looked, score-wise, more like blacks. Speculated that there should be some point in the future where black and white subjects' reading scores would overlap to the degree that there would be no practical differences, adding yet another factor to be considered in the declining significance of race.

SCRUGGS, THOMAS E.; BENNION, KARLA; & LIFSON, STEVEN. Learning disabled students' spontaneous use of test-taking skills on reading achievement tests. *Learning Disability Quarterly*, Summer 1985, *8*, 205-210.

Endeavors to determine whether learning disabled (LD) and nondisabled pupils differ in strategies used while taking reading achievement tests. The population involved 32 third-grade pupils, 12 of whom were classified as LD and 20 regular-class pupils. Mean grade equivalent scores for reading comprehension for non-LD subjects on the *Comprehensive Test of Basic Skills* was 3.9 and for LDs, 2.3. Two reading tests were constructed from items taken from the *Stanford Achievement Test*, and interviews conducted to delineate the strategies employed in answering questions and their levels of confidence in each answer. With reading ability controlled for, the sample of LD third graders differed from their regular-class counterparts with respect to: a) proportion of appropriate reasoning strategies reported for inferential comprehension questions; b) performance and confidence level for items in which reasoning strategies had been reported; and c) choice of an appropriate distractor on a letter-sound test. LD subjects did not differ from their nondisabled peers in terms of appropriate strategy use on recall items. Generally, LD children tended: a) to report fewer reasoning strategies, when appropriate, on reading comprehension test items than their regular-class counterparts, and b) to be less successful on those items for which they reported using reasoning strategies.

HEPPNER, FRANK H.; ANDERSON, JOHN G.T.; FARSTRUP, ALAN E.; & WEIDERMAN, NELSON H. Reading performance on a standardized test is better from print than from computer display. *Journal of Reading*, January 1985, *28*, 321-325.

Administers the 1960 version of the *Nelson-Denny Reading Test* to 86 students, staff, and faculty of an eastern university, with half receiving form A on a computer, and half receiving form A in a print version. After 20 minutes, subjects at the computer exchanged with those who had worked the print form, and form B was administered. Subjects also completed two questionnaires, one on background and previous reading and computer usage, and a second, upon conclusion of testing, concerning impressions of speed and comprehension on the computer versus the print test, and whether they would prefer to read from a screen or the printed page. Performance scores were significantly higher for the print forms than for the computer forms for the group as a whole, as well as for subgroups formed on the basis of questionnaire data. Computer familiarity did not alter relative differences in performance scores. Subjects felt they could read the print faster, that it was easier to comprehend, and that print was preferred to computer for reading books, novels, and important materials. When numbers of unanswered questions on print versions and computer versions were compared, significant differences were found, suggesting a reduction in reading speed associated with using the terminal.

V-13b Predictive studies

BUTLER, SUSAN R.; MARSH, HERBERT W.; SHEPPARD, MARLENE J.; & SHEPPARD, JOHN L. Seven-year longitudinal study of the early prediction of reading achievement. *Journal of Educational Psychology*, June 1985, *77*, 349-361.

Presents longitudinal data from a study designed to determine how well a broad, comprehensive battery of tests administered to all kindergarten children in seven public schools in the St. George region of metropolitan Sydney (n = 392) predicted those children's reading achievement in first, second, third, and sixth grade. The test variables were reduced to six predictive factors by factor analysis (Psycholinguistic Abilities, Figure Drawing, Language, Rhythm, Perceptual Motor Skills, and Spatial/Form Perception) that, together with the child's sex and the parent's language, had multiple correlations with reading achievement of .58 (Grade 1), .65 (Grade 2), .70 (Grade 3), .66 (Grade 6), and .71 (across all reading achievement tests). Path analysis showed that characteristics assessed in kindergarten directly influenced reading in early primary grades and that early reading achievement was the primary determinant of later reading performance. The use of a two-stage testing procedure, a preliminary screening device followed by the full test battery for selected children, had almost no effect on the accuracy of predictions in the study.

FREEBODY, PETER, & RUST, PATRICIA A. Predicting reading achievement in the first year of schooling: A comparison of readiness tests and instructional programs. *Journal of School Psychology*, Summer 1985, *23*, 145-155.

Identifies predictors of various aspects of end of first year reading achievement and compares achievement in two contrasting programs. Subjects were 140 children from four primary schools in an Australian city, two schools in upper-middle-class areas and two in lower-middle-class areas. Within each socioeconomic area, one school utilized a reading program emphasizing a subskills approach, and one a meaning emphasis. Predictor variables, administered four weeks into the school year, included: a picture sequencing task; a test of listening comprehension/memory; the Letter Identification sheet from *The Early Detection of Reading Difficulties;* and the *Concepts About Print* test (CAP); and several background predictors such as sex, socioeconomic status (SES), attendance at preschool, school attended, and reading program. Criterion measures were given toward the end of the year and included a 50-word measure of sight vocabulary; the *Australian Council for Educational Research Primary Reading Survey Test*, Level AA; and a measure of reading comprehension consisting of eight brief stories, each accompanied by a picture and followed by four questions, one from each comprehension category. Correlation coefficients between the CAP and criterion measures ranged from .35 to .59. When determining percentages of variance on reading achievement measures, it was found that CAP scores were significant predictors of the composite score but of only one type of comprehension. The subskills emphasis program tended to give better pupil performance on tasks relating to individual word knowledge, but neither program gave superior performance over the other on measures requiring comprehension of discourse.

TOLLEFSON, NONA; MANLEY, JANET; & GLAZZARD, MARGARET. Validity of the kindergarten teachers' rating scale for estimating reading readiness for preschool students. *Perceptual and Motor Skills*, April 1986, *62*, 626.

Presents the results of a study of the concurrent validity of the *Kindergarten Teachers Rating Scale* (KTRS). At the end of the school year teachers rated a sample of 20 white, middle-class preschoolers (11 girls, 9 boys) ranging in ages from 49 to 70 months on the six performance scales of the KTRS (Reasoning Ability, Speed of Learning, Number and Space Relations, Psychomotor Abilities, Verbal Comprehension, and Verbal Expression). In addition, the *Basic School Skills Inventory* (BSSI) was administered individually to each pre-

schooler. The Reading Readiness subtest scores of the BSSI and the Total Score were regressed on age, IQ, and the six KTRS rating scale scores. Separate analyses were conducted for the Reading Readiness score and the Total Score. When 8 independent variables were regressed on the Reading Readiness Score, the multiple R was .86, Number and Space Relations explained 49% of the variance in reading readiness scores. When age was added, 63% of the variance was accounted for, while the addition of Verbal Comprehension increased the explained variance to 74%. The only independent variable which significantly predicted the Total Score was Speed of Learning, accounting for 39% of the variance. The researchers argue that the use of a rating scale is supported as an estimate of the reading readiness for high ability preschoolers, as measured by the BSSI.

PIERONEK, FLORENCE T., & BEEVER-POTTS, CAROLE. Predicting success for learning to read at the end of grade one. *Reading Improvement*, Fall 1985, *22*, 220-225.

Reports predictive validity data on the *Metropolitan Reading Readiness Test*, Level II, and the *Murphy-Durrell Pre-Reading Phonics Inventory*. The two readiness measures were administered to 30 Canadian children in May of the kindergarten year. One year later, at the end of first grade, children were given the *Gates-MacGinitie Reading Tests*, Primary A. A Step-wise Regression Analysis was used in analyzing results. Two subscales of the Murphy-Durrell, Syntax Matching and Knowledge of Lower Case Letters, and two subscales of the Metropolitan, School Language and Listening and Auditory Memory, best predicted vocabulary and comprehension scores on the Gates-MacGinitie.

LATORRE, RONALD A. Kindergarten screening: A cross-validation of the Florida Kindergarten Screening Battery. *Alberta Journal of Educational Research*, September 1985, *31*, 174-190.

Reports a cross-validation of the *Florida Kindergarten Screening Battery* (FKSB) to determine its suitability for Canadian pupils. A total of 299 Vancouver pupils were administered the FKSB early in the kindergarten year. A random sample of 100 of the pupils received psychological testing and screening with an alternate battery at the end of kindergarten. At the end of grade one, the progress of 217 of the pupils was surveyed through their classroom teachers, and at the end of grade two, a similar survey was conducted for 189 pupils. Bivariate matrices consisting of predicted risk (severe, moderate, average, and superior) crossed with actual reading performance (very poor, poor, average, and superior) were used to determine hit rates (accurate predictions). Convergent validity was demonstrated by significant coefficients between the FKSB and psychological clinical predictions and between the FKSB and the other recognized screening battery. When prediction categories were collapsed to two (risk vs. no risk), the FKSB yielded a positive hit rate of 81% over a two-year period. The hit rate declined in the third year, presumably because of intervention programs.

SHARE, DAVID L.; JORM, ANTHONY F.; MACLEAN, ROD; & MATTHEWS, RUSSELL. Sources of individual differences in reading acquisition. *Journal of Educational Psychology*, December 1984, *76*, 1309-1324.

Investigates sources of individual differences in reading achievement in a longitudinal study of 543 children. A variety of individual attributes covering prereading abilities, oral language abilities, motor skills, personality, and home background were assessed at school entry. Reading achievement was subsequently assessed at the end of kindergarten and first grade. The strongest predictors of reading achievement were tasks tapping phonological processing skills, interdigital dexterity, and familiarity with the alphabetic code of English script. Collectively, individual attributes accounted for 63% of the variance in reading achievement at the end of kindergarten and 59% at the end of first grade. A short set of five predictors (phoneme segmentation, letter copying, sex, letter names, and sentence memory) provided a potentially useful screening test for early identification of reading-disabled children in that

these predictors accounted for only 1% less variance than the complete battery. Significant ability-composition (of a child's class) effects were obtained, accounting for 9% of kindergarten and 6% of first grade reading achievement variance beyond variance owing to individual factors. Peer ability was as strong a predictor of individual reading achievement as individual ability.

SOLAN, HAROLD A.; MOZLIN, ROCHELLE; & RUMPF, DAVID A. Selected perceptual norms and their relationship to reading in kindergarten and the primary grades. *Journal of the American Optometric Association*, June 1985, *56*, 458-466.

Provides norms for four perceptual-motor tests and correlates them with readiness and reading achievement measures. Subjects were 48 kindergarten children, 49 first graders, and 47 second graders. All subjects were administered a tachistoscopic exposure test, the grooved pegboard test, the six figure divided form board test, and the auditory-visual integration test. The *SRA Primary Mental Abilities Test-Readiness Level* was administered to the kindergarten subjects and the *Gates-MacGinitie Reading Test* was given to the first and second graders. Norms are provided for the four perceptual tests. Twenty-five of the 30 perceptual-motor scores correlated significantly with readiness and reading achievement, although the strength of the correlations tended to decline as grade level increased. Coefficients ranged between -.23 and +.55.

SOLAN, HAROLD A., & MOZLIN, ROCHELLE. The correlations of perceptual-motor maturation to readiness and reading in kindergarten and the primary grades. *Journal of the American Optometric Association*, January 1986, *57*, 28-35.

Explores the relation between perceptual-motor tasks and beginning reading. Subjects were 48 kindergarten children, 49 first graders, and 47 second graders. All subjects were administered a tachistoscopic exposure test, the grooved pegboard test, the six figure divided form board test, and the auditory-visual integration test. The *SRA Primary Mental Abilities Test-Readiness Level* was administered to the kindergarten subjects and the *Gates-MacGinitie Reading Test* was given to the first and second graders. Correlation matrices for each grade level revealed that the perceptual-motor tasks were not dependent upon a common process but reflected different developmental skills. Stepwise multiple regression was used to determine the predictive validity of the perceptual tests. Three of the perceptual factors yielded a multiple R of .72 with vocabulary and .59 with comprehension. The predictive validity of the perceptual tests were similar for kindergarten and grade one but declined for grade two.

NEWVILLE, LYNNE, & HAMM, NORMAN H. Content validity of the WRAT and grade level achievement of primary grade students. *Journal of School Psychology*, Spring 1985, *23*, 91-93.

Examines the *Wide Range Achievement Test* (WRAT) Reading and Arithmetic scores of 70 kindergarten, first-, and second-grade children from 20 classrooms of three elementary schools and compares them with grade placement in reading and math and with text placement in reading. Children were from a suburban, middle class school district. Scores on the WRAT for these children were considerably above the norms for their grade levels with the exception of the arithmetic scores for second graders. Mean WRAT grade level scores were 1.7, 3.2, and 5.1, respectively, for children in the seventh month of kindergarten, first grade, and second grade. Average reading textbook placement was 1.8 in first grade and 3.0 in second grade.

SCHMIDT, SHELDON, & PERINO, JOSEPH. Kindergarten screening results as predictors of academic achievement, potential, and placement in second grade. *Psychology in the Schools*, April 1985, *22*, 146-151.

Investigates the capability of a battery of kindergarten screening measures to predict educationally relevant criteria. Subtest scores were collected on the *Vane Test of Language* (Receptive and Expressive Language Scales) and the *Vane Kindergarten Test* (Perceptual Motor and Draw-A-Man) administered at the onset of kindergarten to 378 subjects (201 boys and 177 girls). Subjects were tested at the end of second grade in reading and mathematics on the *Metropolitan Achievement Test* (MAT). Raw scores on the *Otis-Lennon School Ability Test* were also obtained. Children who were placed into special education or high achievement programs at the end of second grade were studied. Mutliple regression analysis was used to determine how well the subtests on the two Vane tests predicted scores on the MAT and Otis-Lennon. A weighted combination of three subtests accurately predicted 77% of the children classified as special education pupils. The same battery also predicted 73% of the children who were classified as high-achievers.

BERNINGER, VIRGINIA WISE. Preliminary findings of year-long longitudinal study of normal variation in learning to read. *Perceptual and Motor Skills*, April 1985, *60*, 665-666.

Identifies predictor variables for naming printed words at the end of the kindergarten year. The 26 girls and 22 boys included in the study were administered a battery of visual, linguistic, and word decoding/encoding skills tests. No significant sex differences were found. Of the 63 correlation coefficients computed between a visual or linguistic variable and the measure of word decoding/encoding, 57% were statistically significant. Phonemic analysis was the single predictor variable accounting for most of the variance in naming printed words. The best combination of predictor variables was phonemic analysis + selective attention to letter information + memory for whole words.

COLLIGAN, ROBERT C., & BAJUNIEMI, LEE E. Multiple definitions of reading disability: Implications for preschool screening. *Perceptual and Motor Skills*, October 1984, *59*, 467-475.

Examines the predictive validity of a preschool screening battery intended to identify children who would later experience reading disabilities. Based upon the literature, a preschool battery was developed that assessed four areas: 1) cognitive functioning, 2) behavior observations, 3) preacademic knowledge, and 4) functional language skill. The battery was administered to 165 prekindergarten children. Three years later, 58% of the sample (n = 95) was available and tested for academic aptitude and reading ability. The pretest battery included the *Vane Kindergarten Test* and the reading and arithmetic subtests of the *Wide Range Achievement Test*. At the end of grade two, the Vocabulary and Block Design subtests of the WISC were given and reading was assessed with the word recognition subtest of the *Peabody Individual Achievement Test*. Four indices of reading disability were defined and used to classify pupils. Stepwise discriminant function analysis yielded variables that correctly identified children in each category. Predictor variables differed, depending upon how reading disability was defined. Only three pupils (all boys) were identified as learning disabled by all criteria; five other boys were so identified by three of the four definitions. Number skill, sex, and ability to print first name correctly were frequently effective in identifying pupils likely to experience reading difficulty.

McKAY, MICHAEL F.; NEALE, MARIE D.; & THOMPSON, G. BRIAN. The predictive validity of Bannatyne's WISC categories for later reading achievement. *British Journal of Educational Psychology*, November 1985, *55*, 280-287.

Investigates whether primary school children in Australia who fail in reading in spite of overall average intelligence display a deficit in WISC results characterized by Bannatyne's Sequential factor. A sample of 106 boys and 115 girls, mean age 4.6, was selected. Subjects had a mean IQ of 109.17. Data collected at 12-month intervals over the period of 1970-1975 included the WISC, the *Neale Analysis of Reading Ability*, and the *ACER Reading Survey Test*. Patterns of change in reading performance were plotted in stanines. Readers were categorized into eight groups based on the degree of change in scores. Multiple analyses of variance revealed significant differences between the eight groups on Spatial, Conceptual, and Sequential scores. Univariate tests showed significant differences for girls and for the total sample, but not for boys. A step-down test suggested that only the Sequential variable was independent of the other two variables for distinguishing among levels of readers. The researchers concluded that Bannatyne's WISC categories did not discriminate between children who were slow starters and those who continued to fail at reading throughout school.

BROWN, DAVID M. A short form of the WISC-R for screening disabled readers. *Reading Improvement*, Summer 1985, *22*, 114-117.

Investigates the feasibility of creating a short form of the WISC-R for rapid, economical use as a screening instrument for acquiring IQ estimates of disabled readers in a clinical setting. Studied were the records of 100 subjects, ages 6 to 16, being tutored in a reading clinic. Data included scores on all 10 subtests of the WISC-R and a *Full Scale Intelligence Quotient* (FSIQ), a complete reading battery consisting of *Sucher-Allred Reading Placement Inventory*, *St. Louis Spelling Test*, and *Woodcock Reading Mastery Tests*. Subjects were children scoring between 75-140 on the WISC-R who demonstrated a significant disparity between instructional reading level and potential (FSIQ). A multiple-r procedure was run between the scores on the WISC-R subtests and the FSIQ. Comprehension, Vocabulary, Object Assembly, and Arithmetic correlated most highly with the FSIQ and accounted for 85% of the FSIQ variance.

FILLMER, H.T. Disabled readers among the gifted. *New England Reading Association Journal*, Autumn 1985, *20*(3), 37-41.

Seeks to develop a simple procedure for identifying disabled readers among the gifted (IQ of 130 or higher on the *Otis-Lennon School Ability Index*) and to discover the percentage of gifted pupils who are disabled readers in a large county school district in the Southeast. Involved was the analysis of computer tapes containing pupils' records at fifth and eighth grade levels for two academic school years. The grade level was subtracted from the score on the reading section of the *Metropolitan Achievement Test* to arrive at the instructional level. Underachievement in reading was defined as a level one or more years below that predicted by the pupil's IQ. For the 1981-1982 academic year, there were 114 academically gifted pupils in fifth grade and 255 in eighth grade. Seven disabled readers were identified at the fifth grade level and four in the eighth grade group. Records for 1982-1983 academic year identified 91 academically gifted fifth graders and 130 at grade eight. Of these, 8.8% of pupils at grade five were disabled and 1.5% at grade eight.

VANCE, BOONEY; KITSON, DONALD; & SINGER, MARC G. Relationship between the standard scores of Peabody Picture Vocabulary Test-Revised and Wide Range Achievement Test. *Journal of Clinical Psychology*, September 1985, *41*, 691-693.

Presents the results of an investigation designed to establish the concurrent validity of the *Peabody Picture Vocabulary Test-Revised* (PPVT-R), using the *Wide Range Achievement Test* (WRAT) as a criterion measure of achievement. Subjects were 37 children (male = 25;

female = 12) in grades one to seven, ranging in ages from 71 months to 175 months, who had been referred for special education services in northeastern Ohio. Seventy percent were white, 20% were black, and the majority represented low middle socioeconomic status. Each subject was administered the WRAT and PPVT-R in counterbalanced order. Pearson product-moment correlation coefficients and correlated t values were employed in the data analysis. The PPVT-R standard score correlated positively and significantly ($r = .30$, $p < .03$) with the WRAT-Reading standard score. Neither the Arithmetic nor Spelling subtest scores correlated significantly with the standard score of the PPVT-R.

HOOPER, STEPHEN R., & HYND, GEORGE W. Performance of normal and dyslexic readers on the Kaufman Assessment Battery for Children (K-ABC): A discriminant analysis. *Journal of Learning Disabilities*, April 1986, *19*, 206-210.

Examines the utility of the *Kaufman Assessment Battery for Children* (K-ABC) in differentiating between 30 normal and 55 matched dyslexic readers, ranging in age from 8.5 to 12.5. The total sample included 46 males and 39 females, 4 black and 81 caucasian children, enrolled in grades two through six. Criteria for inclusion for the 55 disabled readers included demonstration of average cognitive ability and reading recognition level at least two grades below their expectancy on the *Stanford Achievement Test*. Average IQ was 91.7 while the average reading score was 2.01. Normal subjects were matched to the mean chronological age, sex, and general geographic location of dyslexics. The K-ABC, and individually administered tool, is designed to assess intelligence by testing simultaneous and sequential processing, as well as to test academic achievement. On the K-ABC simultaneous processing is determined by subtests that require the integration of separate elements into groups (e.g. Gestalt Closure, Triangles, Matrix Analogies, Spatial Memory). Sequential processing subtests require information processing in a serial fashion, and include Hand Movement, Number Recall, and Word Order. Achievement subtests include (among others) Reading/Decoding and Reading/Understanding. Significant differences between the groups were manifested on the cognitive subtests of Hand Movements, Number Recall, Word Order, and Matrix Analogies, in favor of the normal readers. The normal readers also produced significantly superior scores on each achievement subtest, as well as the Sequential and Achievement Factors, and the Mental Processing Composite. One significant discriminant function was generated which accounted for 66% of the variance between the groups. A predictive discriminant analysis resulted in an overall 91% correct classification rate.

WEBSTER, RAYMOND E. The criterion-related validity of psychoeducational tests for actual reading ability of learning disabled students. *Psychology in the Schools*, April 1985, *22*, 152-159.

Examines the criterion-related validity of a battery of six educational diagnostic and achievement tests. In the first study, 155 learning-disabled (LD) pupils in grades 4 to 7 were tested using a battery of six widely used diagnostic tests. Their actual reading level, as determined by classroom teachers on the basis of placement level within a basal series, served as the criterion variable. In the second study, 46 LD pupils in grades 5 and 6 were used. However, potentially confounding ecological variables such as time of testing, type of reading instruction, chronological age, and grade level were controlled. In both studies, stepwise multiple regression was used to examine the predictive validity of the diagnostic subtests. In Experiment 1, six subtests accounted for 70% of the variance in actual reading with just two of the subtests accounting for 66%. A multiple correlation coefficient of .842 was obtained when all subtests were used. In Experiment 2, five subtests accounted for 76% of the variance in actual reading achievement with a multiple correlation coefficient of .87.

POWELL, GLEN, & CALLAWAY, BYRON. AN ANALYSIS OF THE DIAGNOSTIC UTILITY OF THE WOODCOCK READING MASTERY TEST. *Reading Improvement*, Spring 1986, *23*, 32-34.

Compares patterns of reading performances on the *Woodcock Reading Mastery Tests* and an informal reading inventory (IRI). Subjects were 40 elementary age pupils, in grades 2-6, referred for testing to a university clinic. All pupils were administered Form A of the Woodcock and an IRI which contained passages assessing silent reading comprehension and oral recognition in context. Children were selected for the study based on two reading behavior patterns on the IRI. One pattern consisted of those subjects with better performance on comprehension than word recognition, while the second pattern was of those with better performance on word recognition than comprehension. Performance on the inventory was then compared with that on the Woodcock. A chi-square analysis was used to test the relationship. Results indicated that the Woodcock would not yield diagnostic information similar to that obtained from the IRI.

BREEN, MICHAEL J. An analysis of Wide Range Achievement Test and Woodcock-Johnson achievement grade and standard scores for learning disabled and nonreferred regular students. *Educational and Psychological Research*, Summer 1984, *4*, 115-121.

Administers to 28 randomly selected, nonreferred regular education pupils and an equal number of learning disabled subjects the *Wide Range Achievement Test* (WRAT), and the Reading, Mathematics, and Written Language achievement subtests of the *Woodcock-Johnson Psycho-Educational Battery* (WJ). Children ranged in age from 8.0 to 9.11. Pearson Product-Moment correlation coefficients, two-tailed dependent t-tests, and analysis of variance were used in comparing levels of performance between the WRAT and the WJ. Results indicated high coefficients between the WRAT Reading, Arithmetic, and Spelling subtests with the corresponding WJ Reading, Mathematics, and Written Language academic achievement subtests. The WRAT was generally found to yield significantly higher grade level and standard scores than the WJ. Data suggested that the two achievement indices were not comparable. Both were able to psychometrically differentiate between LD and RE groups, with regular education subjects scoring significantly higher on all measures.

ABRAMS, HELENE G., & JERNIGAN, LOUISE PODOJIL. Academic support services and the success of high-risk college students. *American Educational Research Journal*, Summer 1984, *21*, 261-274.

Correlates academic success variables, as determined by college grade point average (GPAs), number of credit hours completed, and persistence in the university with the traditional predictors of academic achievement: admission test scores, and high school grades. Two hundred-nineteen high-risk university freshmen (60% = male; 40% = female) attended special small classes, visited tutors, and participated in a reading and study skills program. As a result of involvement, these students significantly improved their reading skills as assessed by the vocabulary and comprehension subtests of the Nelson-Denny, achieving nearly double the expected grade equivalent gain. In addition, 57% of these high-risk students earned a "C" or better average by the end of their freshman year, even though predictions based on their admission test scores and high school GPAs suggested failure. The variables of hours spent using the support services and the number of tutor contacts correlated positively with college GPAs and improved the prediction of the students' fall GPAs.

V-13c Cloze testing

CHAVEZ-OLLER, MARY ANNE; CHIHARA, TETSURO; WEAVER, KELLEY A.; & OLLER, JR., JOHN W. When are cloze items sensitive to constraints across sentences? *Language Learning*, June 1985, *35*, 181-206.

Reviews past research which examines whether cloze items are sensitive to constraints beyond the immediate sentence and reports a study which explores the inter-sentential constraints of cloze. First, conflicting research is reviewed and analyzed. One explanation of the controversy is that contextual sensitivity varies with the proficiency of the language user. Second, a study was conducted which contrasted cloze performance of 201 Japanese students with that of 42 native English university students. Two text samples were used, each presented in a standard every-nth word deletion format and in a scrambled order format. By contrasting item discrimination and item facility indices for non-native and natives in the normal and scrambled conditions, individual items were identified which showed the greatest sensitivity to constraints across sentence boundaries. It is concluded that some cloze items are sensitive to constraints beyond sentence boundaries. However, past research has frequently incorporated confounding elements and extraneous factors which then tend to be too crude to detect intersentential sensitivity.

KEMP, GLIN. Reading across the curriculum: Matching reading skills to reading materials. *Support for Learning*, February 1986, *1*, 7-12.

Uses the cloze procedure to investigate the match between reading ability of students enrolled in a first year mixed ability class in a British secondary school and the texts they must read in history, English, life science, and mathematics. Four prepared passages, one from each text, were administered, one a week for four weeks. Cloze responses were scored for independent, instruction, and frustration levels. In English, history, and science, average scores for the class were at frustration level. In mathematics, average scores were at the instructional level.

DE SANTI, ROGER J., & SULLIVAN, VICKI GALLO. Reliability of single-rater judgments of semantic and syntactic classifications of cloze test responses. *Journal of Research and Development in Education*, Winter 1985, *18*(2), 49-53.

Reports the reliability of rater judgments of semantic and syntactic classifications on the *Cloze Reading Inventory*. The Inventory, four passages at each of grade levels 3 through 12, had been developed following suggestions in the research literature. Validity had been previously established. From a pool of 456 subjects' papers, 200 were rated by a panel of seven raters using the same set of scoring directions. Single-rater reliabilities were generally consistent across passages and grades, with mean reliability coefficients ranging from .55 to .96. The Grammatical Awareness category had the lowest coefficient, suggesting a lack of clarity in the scoring instructions and conflicting views of grammaticalness among the raters.

HOSKINS, SUZANNE BRATCHER. Reading levels of beginning NAU students. *Arizona Reading Journal*, Fall 1985, *14*(2), 16-18.

Cites research from four studies investigating reading abilities of underclassmen at Northern Arizona University. The most recent study provided test data from the comprehension subtest of the *Nelson-Denny Reading Test* on 613 freshmen and sophomores enrolled in English and history classes. Results indicated that 35% of freshmen and 47% of sophomores tested were scoring at least one grade level below expected. In a cloze test, constructed from a college history text, and administered to 101 entering freshmen, 67% had severe difficulty with the text (scored at frustration level). A third study indicated even more severe problems with second language students. Implications of the findings are discussed.

V-13d Test uses and purposes

DREHER, MARIAM JEAN, & SINGER, HARRY. Parents' attitudes toward reports of standardized reading test results. *The Reading Teacher*, March 1985, *38*, 624-632.

Queries the parents of 24 third-grade pupils, randomly selected, for their views on the subject of standardized tests. Parents were asked to react to four kinds of reports about their child's performance: 1) a graph of each child's norm-comparison performance in grades two and three; 2) the addition of self-comparison performance of the child's scores on the *California Achievement Test* in grades two and three; and 3) and 4) the same as 1) and 2) but with the addition of the most difficult item correctly completed. Twenty of the 24 parents preferred to see reports which supplied both self- and norm-comparisons as well as content samples. Least liked was the norm-comparison only.

GAMBRELL, LINDA B. Minimum competency testing and programs in reading: A survey of the United States. *Journal of Reading*, May 1985, *28*, 735-738.

Assesses the extent and nature of minimum competency testing and programs in reading by means of a questionnaire mailed to chief state school officers. Replies were received from all states. Over half (29) of the states required minimum competency testing in reading, while two others were in the process of implementing such a program and 19 did not plan to implement one. Fifteen states linked minimum competency to graduation. Of the 29 states requiring minimum competency testing, 22 also required remedial reading programs. Only about half of those states have written objectives for the remedial programs.

KIPPEL, GARY M.; WEINER, MAX; & SONTAG, MARVIN. A longitudinal study of the Degrees of Reading Power test. *Perceptual and Motor Skills*, April 1986, *62*, 424-426.

Determines how well the *Degrees of Reading Power* (DRP) test measures pupil gains or losses over time. The test was administered in three school districts at three separate times: to fourth graders in April of 1981, to the same children as fifth graders in October of 1981, and again in April of 1982. Thus one time interval included summer vacation, and the other interval included instructional months. Pupils in each district were chosen to be representative of the school system in age, sex, and socioeconomic characteristics. Data were analyzed using one-tailed *t* tests for correlated groups and Pearson product-moment coefficients of correlation. Consistent gains from one test administration to the next were found for the total group of 411 pupils. Gains from April to October were 3.69 DRP units and for October to April, 4.99 DRP units. October scores were significantly higher than April 1981 scores in two of the three districts. April 1982 scores were higher than October scores in all three districts. The correlation coefficient for the total group for April to October was .77; for October to the following April, .75; and for April to April, .74. The researchers concluded that the test reflects instruction and growth, and has long-range stability.

UMOLU, J., & MALLAM, W. Use of an informal reading inventory for reading assessment of Nigerian primary school children. *Reading*, November 1985, *19*, 172-176.

Describes the development and administration of an informal reading inventory to investigate the English reading performance of 300 children in five public and five private schools in the central portion of Nigeria. Eleven graded passages with four comprehension questions for each passage were developed. Two questions tested literal comprehension, one tested inferential comprehension, and one required supplying a name or a title for the passage. Children's reading levels were generally found to be lower than the level of the book they were required to use in class. Significant differences were found between reading levels of public and private school children, with private school children scoring higher. No differences were found between reading performances of males and females.

V-13e Test reliability and validity

JOHNS, JERRY L. Equivalence of forms of the Gates-MacGinitie Reading Tests with students in grades three, four, and five. *Reading Improvement*, Winter 1985, *22*, 290-293.

Investigates the equivalence of alternate forms of Level C and Level D of the *Gates-MacGinitie Reading Tests*. A total of 298 childen in grades three, four, and five were given the appropriate level alternate forms a week apart. No significant comprehension raw score differences were found for the two forms of Level C given to 82 third graders. For the fourth and fifth grade participants, significant raw score differences in comprehension were detected: Form 3 of Level D was more difficult than Form 1. However, Forms 2 and 3 of Level D did not show significant differences in comprehension raw scores.

HELGREN-LEMPESIS, VALERIE A., & MANGRUM II, CHARLES T. An analysis of alternate-form reliability of three commercially-prepared informal reading inventories. *Reading Research Quarterly*, Spring 1986, *21*, 209-215.

Collects data on reliability of three published informal reading inventories (IRI): the *Analytical Reading Inventory*, the *Basic Reading Inventory*, and the *Ekwall Reading Inventory*. The IRIs selected each contained graded passages, assessed comprehension and word recognition, yielded three levels of reading (frustration, instruction, independent), and had an alternate form. Four trained examiners administered two forms of an IRI to 75 fourth grade children from two predominantly Hispanic, middle-class parochial schools. The alternate forms were given 10 days apart. Pearson product moment coefficients were used to find the reliability of each IRI. Generalizability coefficients were also computed. Pearson and generalizability coefficients ranged from .60 to .78. The largest portion of variance found was associated with the subjects, whereas the smallest portion was attributed to the forms.

ANDERSON, BETTY, & JOELS, ROSIE WEBB. Informal reading inventory scoring criteria: Should repetitions count? *Journal of Reading Education*, October 1985, *11*(1), 20-24.

Examines the practice of including repetitions in word recognition accuracy computation when scoring an informal reading inventory (IRI). A total of 136 test protocols were analyzed for pupils in grades two through five, employing two different scoring procedures which differed only in the manner of treating repetitions. The mean word recognition accuracy percentage when repetitions were counted in the computation were compared with data derived when repetitions were not counted. The *t* value of the mean differences between scores was then computed. None of the *t* values of the mean differences were statistically significant.

DORANS, NEIL J., & KINGSTON, NEAL M. The effects of violations of unidimensionality on the estimation of item and ability parameters and on item response theory equating of the GRE verbal scale. *Journal of Educational Measurement*, Winter 1985, *22*, 249-262.

Studies the verbal scale of the *GRE Aptitude Test* with particular focus on the effects of violations of unidimensionality assumptions. Four forms of the GRE were studied. The test had been administered to sample sizes ranging from 2,579 to 4,351. A discrete verbal score, a discrete comprehension score, and a verbal ability score based on all verbal items were obtained for each subject. Coefficients of correlation ranged from .96 to .97 between total verbal ability score and discrete verbal ability score, from .86 to .89 between total verbal score and reading comprehension ability score, and from .73 to .77 between discrete verbal ability score and discrete reading comprehension score. The last set of coefficients suggested that discrete verbal ability and reading comprehension are distinct, highly correlated abilities. Additional results and analyses are discussed.

KING, GLYNN TRAVIS, & HENK, WILLIAM A. Renorming the SIT: Implications for teachers of reading. *Reading World*, March 1985, *24*(3), 28-33.

Examines the relation between the 1963 and the 1981 norms of the *Slosson Intelligence Test* (SIT). Individual IQ and reading expectancy scores were determined for 180 children, in grades 2-7, referred to a university reading clinic and who had been given both the SIT and the WISC-R. Correlational and descriptive analyses indicated that the 1981 SIT norms were somewhat superior to the 1963 norms in approximating the WISC-R scores. Specifically, the new norms: 1) yielded a higher percentage of exact match individual IQ scores with the WISC-R (4.4% compared with 2.7% match for the old SIT); 2) provided a more balanced distribution of over- and underestimation; 3) closely resembled the overall WISC-R mean and standard deviation; and 4) exhibited a slightly higher correlation that while the SIT was found to serve reasonably well as a quick estimate of intellectual ability, the instrument should not be used as an extended substitute for the WISC-R.

TINDAL, GERALD; FUCHS, LYNN S.; FUCHS, DOUGLAS; SHINN, MARK R.; DENO, STANLEY L.; & GERMANN, GARY. Empirical validation of criterion-referenced tests. *Journal of Educational Research*, March-April 1985, *78*, 203-209.

Examines the test-retest reliability and criterion validity of three basal mastery tests. Subjects were three pools of intermediate pupils, one for each basal mastery test (n = 47, 47, 25). Subjects were administered their respective basal mastery test, a norm-referenced reading test, and a curriculum-based reading test. Subgroups of subjects were retested on their basal mastery test. Reliability and criterion validity were examined two ways, with traditional psychometric procedures and with alternative criterion-referenced procedures. Test-retest coefficients of correlation varied greatly, both within and between mastery tests. Traditional criterion validity coefficients between basal mastery tests and the criterion measures ranged from the .50s to the .70s. For reliability analysis, traditional (norm-referenced) and alternative (criterion-referenced) procedures tended to corroborate each other, yet yielded qualitatively different, complementary information. However, for the criterion validity analyses, correlations between the traditional and alternative procedures were more modest.

LIFSON, STEVE; SCRUGGS, THOMAS E.; & BENNION, KARLA. Passage independence in reading achievement tests: A follow-up. *Perceptual and Motor Skills*, June 1984, *58*, 945-946.

Administers 16 reading-comprehension items without accompanying passages from the *Stanford Achievement Test, Form E* to 38 college undergraduates enrolled in elementary education classes. Items were chosen because they were thought to represent questions that could be answered without having read the accompanying passage, if testwiseness strategies were applied. Mean score on the questions was 75% correct. A one-sample *t* test confirmed that scores were significantly different from chance. The researchers concluded that little has been done to alter passage independent items on tests.

HUBA, MARY E., & KONTOS, SUSAN. Measuring print awareness in young children. *Journal of Educational Research*, May/June 1985, *78*, 272-279.

Reports four experiments on the development and validation of a 15-item instrument designed to examine prereaders' understanding of the purposes of print. Concepts measured included: 1) language has a written symbol system; 2) people write language for efficient communication; 3) reading is deciphering written language to attain meaning; and 4) written language can represent the words uttered by a speaker. Reliability and validity of the instrument were examined through studies conducted with three- through five-year-old readers to demonstrate developmental progressions, and with second-grade normal and poor readers. Children of differing socioeconomic status and intelligence were assessed to eliminate these variables as explanations for differences found in experiments. A fourth experiment exam-

ined relations between the test and other measures of prereading concepts and skills. The researchers concluded that the instrument was both reliable and valid for investigating knowledge of the functions of print for young children. The instrument differentiated between second grade normal and disabled readers.

PERKINS, DOROTHY. Assessment of the use of the Nelson Denny Reading Test. *Forum for Reading*, Spring/Summer 1984, *15*, 64-69.

Administers the Reading Comprehension subtest of the *Descriptive Test of Language Skills* (DTLS) to all students at a Maryland state college who failed to achieve the 22nd percentile on the *Nelson-Denny Reading Test* (NDRT) and compares results. Percentile ranks on the DTLS ranged from 10 to 83. In another year, all students falling at or below the 22nd percentile on the NDRT were given the *Stanford Diagnostic Reading Test* (SDRT). Again a broad range of scores on the SDRT was found. End of semester posttesting revealed that improvement on the NDRT was not substantiated by SDRT posttest scores. The author concludes that a re-examination of the use of the NDRT as an assessment of adequate reading skills is called for.

FARR, ROGER, & BECK, MICHAEL. Validating the "instructional reading level" score of the Metropolitan Achievement Tests. *Journal of Research and Development in Education*, Winter 1984, *17*(2), 55-64.

Reports a series of studies conducted to validate the Instructional Reading Level (IRL) of the *Metropolitan Achievement Test* (MAT). Studies focused on the correlation of IRL estimates on the MAT with IRL estimates on an informal reading inventory; on the comparability of IRLs on the two forms of the MAT; on the possibility of deriving IRLs from simple raw scores; and on the correspondence between skill proficiency in reading and IRLs. Subjects were second and fourth graders. Both groups took on-level MAT tests and informal reading inventories (IRI) developed over the MAT materials. IRIs were administered to a subset of 15 children at each grade level, after they had completed the MAT. Nearly half read at the same level on both tests; an additional 45% differed by one grade; and 6% had a greater than one grade deviation in scores. To obtain data on equivalence, passages were administered to subjects in grades 4, 6, and 8. IRLs agreed over 50% of the cases, and for 97% of the cases, the estimates were within one grade level. When subjects (26) from grades 2, 4, and 6 had their raw scores on the MAT compared with the ratings of 25 experienced teachers, ratings were similar on 54% of the cases, and 90% were within one level. Correlation coefficients between ratings and IRL placement based on MAT raw scores was .97. When comparing IRLs and instructional objectives, performance on skills tests was consistent with expectations from the IRL.

FARR, ROGER; COURTLAND, MARY CLARE; & BECK, MICHAEL D. Scholastic Aptitude Test performance and reading ability. *Journal of Reading*, December 1984, *28*, 208-214.

Compares 524 Indiana high school seniors' performance on the verbal section of the 1981 *Scholastic Aptitude Tests* and performance on two criterion referenced reading tests: the *Metropolitan Achievement Test 1: Reading Survey* (grades 10 to 12) and the *Degrees of Reading Power*. Students were selected from six schools ranging in socioeconomic levels from predominantly lower to predominantly upper middle class. Each of the six schools chose the criterion referenced reading test it wished to administer: three schools chose the MAT and three chose the DRP. SAT scores were grouped and the reading test performance for each level of performance on the SAT was determined. Students taking the MAT and the DRP were quite similar in their performance on the SAT verbal subtests. Most students scored at the top of the scale for both criterion referenced reading tests. The average instructional reading level of the groups of students at all levels of SAT verbal performance was at or above the ninth

grade. Less than 2% of the students scored at seventh or eighth grade level, and 12% scored at ninth to tenth grade level. The largest group (88%) scored at a reading level of eleventh grade or above.

V-14 Instructional time

GETTINGER, MARIBETH. Achievement as a function of time spent in learning and time needed for learning. *American Educational Research Journal*, Fall 1984, *21*, 617-628.

Examines the effects of time spent in learning (TSL) and time needed for learning (TTL) on reading and spelling achievement, as measured by such means as standardized achievement, criterion test accuracy and retention, and teacher rating. A total of 88 fourth graders and 83 fifth graders participated. Group administered learning tasks were developed in reading and spelling, each with two equivalent forms at each grade level. For reading, social studies passages, divided into 10 equal units and accompanied by a 10-item criterion test, were used. TTL was evaluated as the number of trials needed to master a learning or spelling task to 100% criterion. TSL was evaluated using the same procedure, except that children self-determined the number of trials they spent on an alternate task for each skill area. TTL contributed significantly to achievement, and its direct effect was greater than that of TSL. The reading and spelling scores on the *Sequential Test of Educational Progress* and teacher-assigned grades were collected along with accuracy and retention on the criterion tests.

GETTINGER, MARIBETH. Time allocated and time spent relative to time needed for learning as determinants of achievement. *Journal of Educational Psychology*, February 1985, *77*, 3-11.

Evaluates the extent to which spending or allocating less time than needed for learning affects overall achievement and retention of school-related material. Participants numbered 171 fourth- and fifth-grade pupils. Experimental reading tasks were designed for each grade level in three equivalent forms. Materials consisted of factual reading passages on a social studies or science topic. Passages were divided into 10 equal parts of three lines each with one multiple-choice question accompanying each part. Time needed for learning was estimated by determining the number of trials needed to master a reading task to 100% accuracy. Time spent in learning was evaluated by the number of self-determined trials children spent in learning an alternate, equivalent form of the experimental task. Time allocated for learning was systematically reduced for all children based on the time-needed score. Thus each child received all three tasks, and each task yielded a trials score (trials needed, trials spent, trials allocated) and a retention score. Results indicated that spending and/or allocating insufficient learning time have a direct negative effect on achievement. Both degree of initial learning and one-week retention dropped significantly when children spent or were given fewer trials than needed to learn the experimental task.

V-15 Technology and reading instruction

SPILLMAN, CAROLYN V., & LUTZ, JAY P. A writing to read philosophy. *Childhood Education*, March/April 1986, *62*, 265-268.

Describes how three southwest Florida schools apply a writing to reading program in kindergarten and first grade. Children used IBM Writing to Read software, were provided electric typewriters for additional practice, and participated in daily read-aloud sessions. Ninety percent of the participating teachers noted that children wrote or dictated stories more

than twice a week. Ninety-five kindergarten compositions were collected at the end of the second year of the program and classified based on descriptors of the product, ranging from nothing written on the page (less than 1%), a picture only (9.75%), letters of the alphabet (6.65%), lists or labeled drawings (5.7%), and expressive stories that were read (77%). Eighty percent of the teachers indicated they had not required correct spelling in children's writing, one factor the authors contend may have influenced the beginners' efforts.

PRICKETT, MARJORIE FRASER. Using computer assisted instruction to improve California Achievement Tests scores. *Florida Reading Quarterly*, December 1985, *22*(2), 41-43.

Reports an exercise dealing specifically with Computer Assisted Instruction (CAI) as a means of familiarizing pupils with test format. Twenty-five matched pairs of second grade pupils, treatment and nontreatment, were subdivided to demonstrate how gains differed between those who scored below or at grade level, and those who were above grade level on previous testings. Group A worked with CAI materials while Group B was not permitted to use these, but had to rely on pencil and paper or verbal instructions to prepare for testing on the *California Achievement Tests* (CAT). The use of CAI did help familiarize the subjects with the format of the CAT and gave them practice for questions similar to those used on previous administrations of the test. All Group A pupils made positive gains on CAT scores from the previous year but 22% of Group B fell below their previous year's scores. Children in both groups who had scored below grade level on the previous testing and subsequently had received remedial instruction all showed gains; however, remedial pupils in Group A showed greater gains than did remedial pupils in Group B.

MULHOLLAND, HELEN. Computer use in remedial reading programmes. In Jim Ewing (Ed.) *Reading and the New Technologies*. London: Heinemann Educational Books, 1985, 144-151.

Reports an analysis of responses on a cloze type test, using a classification system devised by the researcher. The responses of pupils aged between 9 and 15 years and varying in reading ability (n unspecified) were analyzed in terms of being related or unrelated to the theme of the text. Ten error categories were devised in all. Patterns of responses changed between age 9 and age 12. After age 12, pupils of equivalent levels of reading ability produced the same types of responses with the same frequency. Poor readers tended to ignore the theme of the text more frequently, made more errors of visual scanning, failed to use context, and had a higher incidence of nonsense responses. Six subjects were given remedial help once a week for 40 minutes over a period of six months. Exercises were presented on a computer and were concerned with visual scanning, vocabulary, reconstruction of syntax, prediction, following context, the processing of complete sentence units, and the establishment of connections between sentences. Substantial gains in reading ability were noted, and these were largely maintained one year later.

JOHNSTON, VIVIEN M. Introducing the microcomputer into English. III. An evaluation of TRAY as a program using problem-solving as a strategy for developing reading skills. *British Journal of Educational Technology*, October 1985, *16*, 208-218.

Evaluates the effectiveness of TRAY, a software program for developing reading and writing skills, independent learning, problem-solving, thinking skills, and oracy for secondary students. The user task in TRAY is to recreate text that the computer holds. The user predicts letters, letter groups, words, or longer units. Because TRAY is content-free, any subject specialty text can be used. Eighteen-line selections from four high-interest texts, representing a variety of stylistic features, were entered. Students worked in small groups for 30 minutes or more solving the problem of recreating the text. The language of three groups was recorded and categorized as to type of linguistic activity. Over half the language responses of

the three groups were related to a search for meaning, either through reconstruction or interpretation of text. Two strategies were observed for developing the text as a whole: working on any point in the text at which a prediction could be made (Groups 1 and 2), and starting at the beginning and working word by word (Group 3). The first procedure was faster and more productive of ideas. Students indicated that TRAY was easy to use (76%), and had easily understood instructions (88%). TRAY was generally felt to be an interesting program (59%), made the user think (76%), and was fun to use (70%). Opinion was divided as to whether TRAY contained useful information or ideas (35% yes, 41% no, 24% unsure) or contributed to learning (41% yes, 47% no, 12% unsure).

HARRISON, COLIN. Criteria for evaluating microcomputer software for reading development: Observations based on three British case studies. *Journal of Educational Computing Research*, 1985, *1*(2), 221-234.

Compares the assumptions built into five published sets of evaluation of software guidelines with those derived more directly from evaluation of software use in three case studies in United Kingdom reading/language arts classes. The case studies provided data on teacher and pupil reactions to five computer programs for reading or English, each of which was used in a small group by children, aged 9 to 13. A description-judgment matrix framed the evaluative criteria and was used as well to analyze data from the three case-study reports. Comparisons of the checklists and case studies showed a heavier emphasis on antecedents (observations or judgments made before the classroom session begins) in the published checklists. The case studies showed a greater attention to transactions (observations or judgments made during classroom activities). In general, neither checklist nor case studies devoted great attention to empirically measured outcomes, or data collected after the classroom session had ended. In the case studies, transaction observations, transaction judgments, and outcome judgments accounted for 247 of 295 analyzed statements. In the checklists, antecedent observations and antecedent judgments accounted for 217 of the 284 total statements.

HYTHECKER, VELMA I.; ROCKLIN, THOMAS R.; DANSEREAU, DONALD F.; LAMBIOTTE, JUDITH G.; LARSON, CELIA O.; & O'DONNELL, ANGELA M. A computer-based learning strategy training module: Development and evaluation. *Journal of Educational Computing Research*, 1985, *1*(3), 275-283.

Evaluates the effectiveness of a computer-assisted cooperative learning (CACL) training module designed to facilitate the acquisition and application of technical information. Participants were 89 college students enrolled in an introductory psychology class. All were administered the *Delta Reading Vocabulary Test* and the *Group Embedded Figures Test*. Subjects were assigned randomly to one of three conditions: CACL group, an Individual Learning Strategy Group (ILS), or a No-Treatment Group. CACL and ILS groups received identical training for one two-hour session, but the latter did not use computers. At a second session, two passages were presented for study. In a third session, subjects were to list all important ideas and facts recalled. Analysis of free-recall scores revealed significantly better performance of the CACL group over the controls. Differences between the CACL and ILS groups favored the former but were not statistically significant.

V-16 Characteristics of effective schools

BAUMANN, JAMES F. Implications for reading instruction from the research on teacher and school effectiveness. *Journal of Reading*, November 1984, *28*, 109-115.

Reviews selected research on teacher and school effectiveness, specifically instructional leadership, assumptions about teaching and learning, goals and objectives, time allo-

cated for reading instruction, academic engaged time, success rates, management, monitoring, direct instruction, instructional organization, and classroom atmosphere. Offered are 11 implications for reading specialists, teachers, principals, or coordinators. Limitations of the research on school and teacher effectiveness are suggested.

GUZZETTI, BARBARA J., & MARZANO, ROBERT J. Correlates of effective reading instruction. *The Reading Teacher,* April 1984, *37,* 754-758.

Summarizes selected research findings on school effectiveness with particular emphasis on reading instruction. Findings are organized under the two broad topics of teacher beliefs and teacher practices. Three major ideas are summed up under teacher beliefs: high expectations, belief in the basics, and dissatisfaction with the status quo. Under teacher practices, effective school research is grouped under two broad areas: instructional practices and organizational practices. Application of the research findings is discussed.

FISHER, JAMES E., & KEAR, DENNIS J. Instructional oversight: The downfall of many reading improvement programs. *Reading Improvement,* Summer 1984, *21,* 130-134.

Identifies from research five basic rules for making classroom reading instruction more effective for problem readers. These are: 1) Remove auditory distractions, 2) Instruction should be teacher directed, 3) Reading should be a means not an end, 4) Oral reading should be used as an assessment tool and guide for reinforcement, and 5) Vocabulary should be taught first, then the story or content. Each rule and its implications are discussed.

WEST, CAROL ANN. Effects of school climate and school social structure on student academic achievement in selected urban elementary schools. *The Journal of Negro Education,* Summer 1985, *54,* 451-461.

Asks whether pupil achievement in urban elementary schools will be higher in schools where there is administrative leadership and school-wide emphasis on basic skills instruction. Data came from two sources: 1) a school climate questionnaire responded to by 147 third- and sixth-grade teachers from 26 of the 30 elementary schools in one New Jersey city; and 2) the results of third- and sixth-graders on the New Jersey Minimum Basic Skills test for 1978, 1979, and 1980. Reading and math test scores were used. An analysis was then made to determine the relation between teachers' perceptions of academic climate and social structure and pupil academic achievement. Stepwise regression procedures indicated that 83% of the variance in reading achievement between schools could be accounted for by a combination of socioeconomic status, race, teacher experience/education, teachers' perceptions of principals' expectations, parental involvement with the school social system, and teacher sense of academic futility. Over and above the effects of race and socioeconomic status, 44% of the variance between schools in reading achievement could be explained by social structure and climate variables. If teacher experience/education was also subtracted, 31% of building level variance in reading was due to school climate and social structure variables.

CANADY, ROBERT LYNN, & HOTCHKISS, PHYLLIS R. Scheduling practices and policies associated with increased achievement for low achieving students. *Journal of Negro Education,* Summer 1985, *54,* 344-355.

Examines briefly data from a school system that employed parallel block scheduling designed for reduced skill group assignments focusing primarily on directed reading and mathematics. A block of time was earmarked for essential and/or desired small skill groups parallel to large group instructional activities and support services. The system had over 8,000 pupils, a racial composition of 63% black and 37% white elements, with fewer than 20 of its teaching force trained beyond one collegiate degree. Data were gleaned over a decade. It

was revealed that demographic variables accounted for only 14% of the variance in gains in reading achievement scores, and that variables within the control of school personnel, such as policies and organizational structures, accounted for a large portion of the gains.

SIMPSON, MICHELLE L. The characteristics of effective vocabulary instruction. *Georgia Journal of Reading*, Fall 1985, *11*(1), 5-9.

Summarizes and synthesizes selected findings about pupils' vocabulary learning. Based on research literature, five characteristics of effective vocabulary instruction are identified: 1) mixed methods; 2) active role of the learner; 3) vocabulary in context; 4) student interest; and 5) intensity of instruction. Each point is discussed briefly and a checklist for teacher use is presented.

SCHNEIDER, BARBARA L. Further evidence of school effects. *Journal of Educational Research*, July/August 1985, *78*, 351-356.

Obtains information on family, peer group, teacher, and school characteristics for 493 pupils, grades four through seven, enrolled in three black and one white urban schools. Data were obtained from test results, student records, teacher questionnaires and interviews, classroom observations, and parent interviews. Data were analyzed with a linear multiple regression procedure and simultaneous equation techniques to examine reciprocal functions among achievement scores and the factors suspected of influencing student learning. Exogenous variables were family, peer, teacher, and school characteristics; endogenous variables were motivation and achievement. Differences in pupil progress in achievement were shown to be influenced by teacher, school, and community characteristics, leading the researcher to conclude that specific school factors such as instructional time have a significant impact on student achievement.

KATIMS, MICHAEL, & JONES, BEAU FLY. Chicago mastery learning reading; mastery learning instruction; and assessment in inner-city schools. *Journal of Negro Education*, Summer 1985, *54*, 369-387.

Describes the instructional materials and features that distinguish the Chicago model of mastery learning instruction and addresses how data from mastery learning instruction can be used as a basis for improvement in instruction and pupil achievement. To answer needs of principals interested in monitoring an individual school's performance and to meet the needs of a district superintendent interested in identifying schools that may require additional instructional support, test results from the 1979 and 1980 administrations of the *Iowa Test of Basic Skills* were inspected in various ways. Scores from 32 classrooms in a Chicago school were compared with scores of 30 classrooms prior to implementation of mastery learning instruction. Pretest scores were identical in both years, but the mean posttest gain in 1980 (after implementation) was 9.0 months compared with 7.4 months in the previous year. A statistically significant decrease was achieved in the correlation between classroom pretest and classroom gain, supporting the effects of mastery learning instruction. To inspect for school effectiveness, means and standard deviations were calculated for age cycle medians, and showed increase in mean achievement with declining variance.

STALLINGS, JANE. A study of implementation of Madeline Hunter's model and its effects on students. *Journal of Educational Research*, July/August 1985, *78*, 325-337.

Assesses the effects of a staff development project on teacher and pupil behavior in two elementary schools in central California. The staff development project included training in the Madeline Hunter instructional model, classroom management, and instructional leadership. Outcomes that were assessed included: 1) pupils' engaged rates (time-on-task), as collected through classroom observation; 2) pupil achievement in math and reading, as deter-

mined by standardized tests; and 3) teacher implementation of the program, as identified through classroom observation. Data were collected at various intervals over a three-year period. Results found significant program implementation among teachers, increased pupil engagement, and significant achievement gains in both reading and math. Significant positive relationships were found between program implementation and pupil engaged rate in reading and math, and pupil achievement in math only. No significant correlation was found between program implementation and reading achievement.

CROCKER, ROBERT K., & BROOKER, GWEN M. Classroom control and student outcomes in grades 2 and 5. *American Educational Research Journal*, Spring 1986, *23*, 1-11.

Seeks to identify dimensions of classroom control derived from factor analysis of selected classroom process variables, to interpret those dimensions in relation to two contemporary models of classroom control, and to explore the relationships between dimensions of control and certain cognitive and affective outcomes, including measures of reading, mathematics, self-concept, and sociometric status. Data used in the study were drawn from a larger data base collected over one school year and developed from some 39 hours of observation per classroom, pre- and posttesting, teacher interviews, and other data sources in a sample of 36 Eastern Newfoundland, Canada, second-grade and 39 fifth-grade classes. The *Gates-MacGinitie Reading Tests*, the *McDaniel-Piers Young Children's Self-Concept Scale*, a mathematics test developed by the researchers, and the *Ohio Social Acceptance Scale* were all administered as pre- and posttests. A selection of 30 classroom process variables was factor analyzed and the factors were examined in terms of the models available. Factor scores were then developed for each class, and these were used as independent variables in the investigation of relationships of the dimension of control to outcomes. All cognitive and affective measures were administered as pre- and posttests. Results of the study indicated that dimensions of boundary control and disruptive behavior are readily identifiable but warmth or emotional climate cannot be clearly separated from disruptive behavior or discussion recitation.

VI. Reading of atypical learners

VI-1 Visually impaired

LASASSO, CAROL J., & JONES, THOMAS W. A survey of approaches to teaching reading to visually impaired students in residential schools. *Journal of Visual Impairment & Blindness*, June 1984, *78*, 263-264.

Tallies responses from a questionnaire mailed to 44 residential schools for the visually impaired relative to aspects of their reading program. An 80% response was obtained. Relative to instructional approaches used, 54% indicated that a basal reader was the primary instructional approach; 13%, a programmed approach; 11%, a language-experience approach; and 10%, an individualized approach. Sixty-six percent reported using informal reading inventories to determine reading levels of students, 66% reported using standardized tests, 60% reported using diagnostic procedures accompanying basals, and 17% reported using a cloze procedure. The *Stanford Achievement Test* was used in 40% of primary school programs, 43% of intermediate level programs, and 43% of senior high level programs.

MACK, CATHERINE. How useful is braille? Reports of blind adults. *Journal of Visual Impairment & Blindness*, September 1984, *78*, 311-313.

Obtains telephone interview data on the current braille usage of 30 blind adults who had studied and used braille for at least five years in a public school. Of those questioned, 29 indicated that they used braille for recording phone numbers, addresses, and similar informa-

tion. Only 17% used braille to read books or magazines for pleasure; 3% used it to write letters, while 53% typed letters. In keeping financial records and checkbooks, 43% used braille, 23% did not keep such records, 23% relied on others' help for this, 6% relied on memory, and 3% kept these records on tape. Talking books and/or tapes were used by half of the respondents to read books and magazines for pleasure; 20% used braille to read work- or school-related information. Advantages of braille mentioned were its easy retraceability (33%), the independence afforded by braille (17%), and the fact that information could be better comprehended and recalled if presented in braille rather than listened to (23%). Disadvantages included that it was a slow way to read (50%), that it takes up a great deal of space (27%), and that many things are not available in braille (27%).

PRING, LINDA. A comparison of the word recognition processes of blind and sighted children. *Child Development*, October 1984, *55*, 1865-1877.

Carries out two experiments investigating differences in word/nonword decisions existing between congenitally blind and sighted children. For both experiments, subjects were nine congenitally blind children whose mean age was 12.2 and 14 sighted children whose mean age was 10.6. Groups were comparable in terms of reading ability as determined by the *Schonnell Reading Test*. Children were given words and nonwords, intact and degraded, related and unrelated. In Experiment 2, the words were divided into a high and a low frequency group. The nonwords consisted of pseudohomophones and matched nonword controls. Sighted children showed an increased semantic facilitation effect with degraded print compared to intact print. For blind children, this trend was reversed. The magnitude of the word-frequency effect was unaffected by script legibility for either group. In the degraded condition, blind children showed increased difficulty in rejecting pseudohomophones relative to nonwords. For sighted, the difficulty appeared with degraded and undegraded print.

PRING, LINDA. Processes involved in Braille reading. *Journal of Visual Impairment & Blindness*, June 1985, *79*, 252-255.

Asks whether blind persons differ from sighted persons in their use of a phonological coding task. Three groups of subjects participated in the study: 1) 10 blind children from a residential school with mean age of 12.1; 2) 5 congenitally blind male students, aged 22-30; and 3) 18 sighted children from a London primary school with a mean age of 10.6. Subjects were presented with 35 words, 18 pseudohomophones, and 18 nonwords. Grade 2 braille was used with blind subjects. Participants were to determine whether or not a stimulus was a word; response time and accuracy were determined. Sighted children took significantly longer to reject pseuodohomophones than matched nonwords. No such differences were found for the two blind groups. Findings were interpreted as suggesting a differential allocation of attention to levels of word processing between the groups of readers.

HELLER, MORTON A., & MITCHELL, BERNARDINE Y. Helping new braille readers: Effects of spacing, finger locus, and gloves. *Perceptual and Motor Skills*, October 1985, *61*, 363-369.

Cites two experiments attempting to learn how to optimize reading in braille. Both experiments used 30 sighted undergraduate students as subjects. In Experiment 1, subjects were asked to read 25 two-letter words embossed in either standard or jumbo braille. An additional group of subjects were asked to read the same words but with extra space between the standard braille characters. The braille stimuli were presented in a box covered by a cloth with braille code and letter equivalents fastened to the top of the box. Reading was aided by the use of large braille and by extra space between braille characters. Procedures in Experiment 2 were similar except that subjects were presented braille characters representing 24 letters of the alphabet twice each. Three conditions were used: fingertip in which subjects used the tip of the index finger; vinyl-gloved, in which subjects wore snug B-D Tru Touch examination gloves; and distal fingerpad, in which the extreme tips of the fingers were cov-

ered by cellophane tape. Mean number of correct responses for the fingertip, gloved, and fingerpad groups were 24.2, 28.3, and 13.9, respectively.

NEWMAN, SLATER E.; KINDSVATER, MARILYN B.; & HALL, ANTHONY D. Braille learning: Effects of symbol size. *Bulletin of the Psychonomic Society*, May 1985, *23*, 189-190.

Ascertains whether learning braille symbols is facilitated if large braille symbols are used on study trials when standard-size symbols are present on test trials and by the use of large braille symbols on test trials. A total of 80 sighted undergraduate males served as subjects. Students were given symbols to examine haptically along with the auditory presentation of the symbol name. Study size was presented in standard or large braille and test size in standard or large braille. Symbols were divided into two sets: A-J and K-T. Learning performance was facilitated if large braille was present during test trials, particularly if standard braille was present during study trials. The presence of large braille during study trials was facilitative when standard braille symbols were present during test trials.

HISLOP, DAVID W.; ZUBER, B.L.; & TRIMBLE, JOHN L. Inkbraille: A pilot study of a new reading medium for blind persons. *Journal of Visual Impairment & Blindness*, September 1984, *78*, 326.

Reports results of a pilot study to determine the ease with which skilled braille readers could learn to read Inkbraille. Inkbraille is a reduced size ink image version of braille and can be simply and inexpensively produced on paper, thereby resulting in a less bulky book. The four subjects used in the study were able to read Inkbraille upon initial exposure and improved their reading performance in that medium with only limited exposure and practice. With two of the subjects, performance for Optacon/letterprint and Optacon/Inkbraille reading was monitored over a number of sessions. One subject who participated in three sessions attained 18.3 words per minute (wpm) in Inkbraille and 15.5 in letterprint. A second subject's performance was 22 wpm in Inkbraille and 13.5 wpm in letterprint. Using the Optacon/Inkbraille, rates are below embossed braille in which rates of 100 wpm are reported as not unusual.

HARLEY, RANDALL K.; PICHERT, JAMES W.; & MORRISON, MERRIE. Braille instruction for blind diabetic adults with decreased tactile sensitivity. *Journal of Visual Impairment & Blindness*, January 1985, *79*, 12-17.

Presents a three-phase report investigating braille reading instruction with tactually impaired blind diabetics. In the first phase of the study, three reliability and validity tests were conducted using the modified Optacon for tactile testing. The procedure followed was felt to have an acceptable level of discriminant validity. The second phase included two experiments to identify differences: 1) in tactile sensitivity between blind and sighted diabetics, 2) in the ability of blind diabetics and sighted nondiabetics to discriminate braille characters, and 3) in the performance of blind diabetics on standard-size and jumbo braille characters. Experiment 1 included 19 blind diabetics and 19 controls, ranging in age from 25 to 77. Tactile sensitivity measures indicated that the blind diabetic group required 80% more stimulation than controls before reporting any tactile sensation. Subjects in Experiment 2 were 10 blind diabetics from Experiment 1 who had no experience with braille and an age matched control group. Blind diabetics were slightly less able to identify a matching braille character from a group of five alternatives than were controls. Performance on jumbo braille characters was not significantly different from that on standard braille. The third phase of the report presented case studies of four blind diabetics who were given braille training tailored to their needs. Training periods ranged from 10 to 18 weeks, and total training time, from 10 to 50 hours. One to five training sessions were given per week, with each session lasting from 30 to 60 minutes. Two subjects completed Grade 1 braille, one learned to identify letters and a few words, and one learned seven letters and numbers.

BIRCHMEIER, ANNETTE K. Aphasic dyslexia of Braille in a congenitally blind man. *Neuropsychologia*, 1985, *23*(2), 177-193.

Describes a case study of an 82-year-old congenitally blind man who became aphasic due to an ischemic attack. He was described as having had exceptional Braille reading skills. He was given two texts of 250 words each to read, one in basic and one in contracted Braille. An analysis was made of his reading in terms of type of text, word-class, word length, and frequency and type of error. Omissions, erroneous word responses, and nonword responses were tallied. Overall performance in contracted Braille was significantly superior to that in basic Braille. This effect held true for content words and function words. Function words were read better than content words. Statistical analysis demonstrated that the effect of type of word was due to word length and word frequency.

VI-2 Hearing impaired

STOEFEN-FISHER, JILL M. Reading interests of hearing and hearing-impaired children. *American Annals of the Deaf*, October 1985, *130*, 291-296.

Seeks to identify reading interests of hearing-impaired subjects and compares these with interests of hearing individuals of the same age. Pupil age and sex were also looked into to determine their effects on areas of interest. A 50-item reading interest inventory was administered to 115 hearing-impaired and 72 hearing subjects between the ages of 9 and 12. Each item included a fictitious title and an illustrated annotation. Subjects indicated their preferences (print vs. television) and degree of interest on a 3-point Likert scale. Items were clustered into five groups: excitement, social empathy, informational, recreational, and fantasy. Final analysis was done on 88 deaf pupils' inventories. Results showed that hearing-impaired subjects had a broader base of interests than their hearing peers. Hearing subjects were significantly more interested in the excitement cluster than hearing-impaired children. Hearing-impaired pupils were more interested in the social empathy, information, and fantasy clusters than normal hearing children. Sex was a significant factor affecting hearing subjects' cluster choices, but was not as pervasive for the hearing-impaired subjects.

SARACHAN-DEILY, ANN BETH. Written narratives of deaf and hearing students: Story recall and inference. *Journal of Speech and Hearing Research*, March 1985, *28*, 151-159.

Compares performance of deaf and hearing high school students on the ability to recall propositions and inferences from prose. The 20 deaf and 20 hearing students ranged in age from 15 to 19. A five-paragraph story written at a fourth grade readability level was given to subjects to read and then to recall in writing. Recall protocols were scored by the research and one judge for story propositions and inferences retained. Both groups recalled significantly more propositions than inferences; similar numbers of inferences were found for both groups. Deaf students recalled significantly fewer propositions than hearing students. Better readers among deaf students were more accurate than poorer deaf readers in recalling explicit text information, but were not different in recalling implicit content.

LASASSO, CAROL. Visual matching test-taking strategies used by deaf readers. *Journal of Speech and Hearing Research*, March 1985, *28*, 2-7.

Seeks to determine if deaf readers utilize a visual matching test-taking strategy, to describe such strategies if noted, and to determine whether strategy use is related to test performance. Subjects were 50 prelingually profoundly deaf students, aged 14-18 years, and 50 hearing children, aged 10-12. All scored between 5.0 and 7.9 on the Reading Comprehension subtest of the *Stanford Achievement Test*-hearing impaired version. Eighteen expository passages ranging in length from 200 to 250 words and followed by four text-explicit and four

text-implicit questions were used. Passages were grouped into six triads, and each subject was given one passage triad and the accompanying questions. Of deaf subjects' incorrect responses, 229 included language verbatin in the text. Analysis suggested the use of visual matching on 210 deaf subjects' responses (41% of total incorrect) but on only 11 responses (4.37% of total incorrect) for normal hearing subjects. Strategy on the part of deaf students appeared to involve locating a word in the question stem, locating the same word in the text, and responding by writing words which are in physical proximity to the words matching those in the question. More than 85% of deaf students were observed to use this strategy. Less than half of the responses were comprised of words occurring within the sentence containing the key word; however, 64% of responses consisted of words which were vertically aligned with the key words. Subjects with good performance in comprehension used visual matching as much as subjects with poor performance did.

WOLK, STEVE, & SCHILDROTH, ARTHUR. A longitudinal study of deaf students' use of an associational strategy on a reading comprehension test. *Journal of Research in Reading*, September 1985, *8*, 82-93.

Analyzes the reading test strategy employed by 738 hearing-impaired students enrolled in a school for the deaf. Mean age of subjects was 14.3. Responses of students to seven items on the Reading Comprehension section of the *Stanford Achievement Test*, Primary 2, were selected for analysis. Answers to items were divided into three categories: correct response, word-association choice, and other distractor choices. The word-association choice was selected at a significantly higher rate (47%) than the rate for either the correct response (23%) or the two distractor choices combined (30%). The selection of word-association choice was found to be significantly related to degree of hearing loss, with profoundly deaf subjects selecting the word-association choice by about 3 to 1. When the patterns of test-item choices were studied for consistency of responses over a one-year period, 61% of students selecting the word-association response at the first testing did so at the second testing. Profoundly deaf students were even more likely to maintain a word-association response pattern over the year when compared to less-than-severely deaf students.

NOLEN, SUSAN BOBBITT, & WILBUR, RONNIE B. The effects of context on deaf students' comprehension of difficult sentences. *American Annals of the Deaf*, July 1985, *130*, 231-235.

Investigates the effect of context on the comprehension of difficult sentences by deaf students. Subjects were 50 profoundly deaf students in grades 4-8 of a residential school for the deaf. All had average to above-average IQ. Reading levels on the *Stanford Achievement Test for Hearing Impaired* ranged from second- to sixth-grade level, while chronological age ranged from about 11 to 18. Participants completed a test composed of 30 randomly ordered multiple-choice items. For each item, subjects read either a single sentence (isolation condition) or a paragraph containing an underlined target sentence (context condition), and then selected from four choices the line drawing that best illustrated the target sentence. Performance was significantly better on context items regardless of reading aloud.

FISCHLER, IRA. Word recognition, use of context, and reading skill among deaf college students. *Reading Research Quarterly*, Winter 1985, *20*, 203-218.

Investigates the effects of sentence contexts on word-nonword decision latencies with deaf and hearing students. Subjects were undergraduates enrolled at a college for the hearing impaired (n = 40), and undergraduates with normal hearing abilities (n = 40). Ninety sentence contexts were developed, which were 6 to 12 words long and could be completed meaningfully with single words. Five test items were compiled for each sentence: a likely completion (PW), an unlikely completion (UW), a semantically unacceptable completion (IW), and two nonwords. Subjects were presented two test item types for each sentence con-

text. The resulting 180 trials were divided into four 45 trial blocks, two blocks with sentence contexts and two blocks with neutral contexts. The neutral contexts consisted of strings of Xs. Response latencies were measured for the lexical decision. The use of blocks in the analysis allowed practice to be a factor. For deaf subjects, context type, word type, and block all affected response time (all $p < .01$). The difference between sentence and neutral contexts was reduced with practice ($p < .02$), and the effect of word type varied with the nature of the context ($p < .01$). Similar results were observed with hearing subjects. Deaf subjects were slower than hearing subjects in their lexical decisions ($p < .01$) and made more errors in the sentence condition ($p < .01$). Four measures were derived from the lexical decision latencies to examine aspects of performance. For both groups, sentence contexts produced faster responses to likely completions and slower responses to incongruous completions.

KRAKOW, RENA ARENS, & HANSON, VICKI L. Deaf signers and serial recall in the visual modality: Memory for signs, fingerspelling, and print. *Memory & Cognition*, May 1985, *13*, 265-272.

Examines the serial recall performance of deaf subjects when presented with words in printed or fingerspelled English and in American Sign Language (ASL). Subjects included 38 congenitally deaf adults, 20 of whom served as controls, and 10 hearing adults. Eight of the deaf experimental subjects had deaf parents and had acquired ASL as a native language, while 10 had hearing parents and had learned ASL in the early school years (nonnative signers). Materials consisted of 141 high-signability (HS) English nouns and 94 low-signability (LS) English nouns. HS words were randomly assigned to three presentation conditions: signs, fingerspelling, and print. LS words were assigned randomly to fingerspelling or print conditions. Assignment of words was then counterbalanced to presentation conditions, resulting in five conditions for both sets of stimuli: ASL signs, HS fingerspelled words, LS fingerspelled words, HS printed words, and LS printed words. Deaf subjects were tested in all five conditions by a native signer; hearing subjects, who saw only printed words, were tested by a hearing individual. Subjects saw six nouns at a time and then were asked to write the words in serial order. Deaf controls were used to control for possible dialectical variations on the interpretations of the signs. No significant difference in performance between native and nonnative signers was found. Results were similar for fingerspelling and signs, both of which differed from print. There was a recency advantage as well as a primary disadvantage for the ASL signs and fingerspelled words compared with print. Deaf subjects used a sign-based code to recall ASL signs but not to recall English words. Mean recall of deaf subjects for the ASL, fingerspelled, and printed words was less than that of hearing subjects for printed words.

BLAIR, JAMES C.; PETERSON, MILES E.; & VIEHWEG, STEVEN H. The effects of mild sensorineural hearing loss on academic performance of young school-age children. *Volta Review*, February/March 1985, *87*, 87-93.

Compares the academic performance of 24 pairs of normal-hearing and mild sensorineural hearing loss (20 to 45 decibels) pupils in first- through fourth-grade. Second and fourth grade pairs were compared on current tests, as well as on performance for previous academic years. A two-way analysis of variance comparing achievement scores from the *Iowa Test of Basic Skills* suggested differences between the two groups on specific subtests. Normal hearing subjects usually outperformed those who were hearing impaired, particularly so in language related areas such as vocabulary and reading, although many hearing impaired subjects' scores were not significantly different from national norms. By third grade and fourth grade, there were greater distances between the scores of the paired subjects. Results suggested that mild hearing loss affects academic performance, especially in the area of language.

HAMP, ERIC P., & CATON, HILDA. A fresh look at the sign system of the braille code. *Journal of Visual Impairment & Blindness*, May 1984, *78*, 210-214.

Undertakes an internal analysis of braille as a written code. Braille units, as analyzed, fall into three major types: letters, modulations, and grams. Letters are either alphabetic, such as b or nonalphabetic, such as 2. Modulations include punctuation and register (e.g., italics). Grams are of three kinds: phonograms, such as the ance in dance; morphograms, as ance in reliance; and logograms, such as the words rather, the , mother, friend, and immediate.

BONNICKSON, KATE. A functional language program that works: A pilot study. *Volta Review*, February/March 1985, *87*, 67-76.

Describes and evaluates an experimental language/reading program for use with hearing-impaired pupils. The program was used with six children, aged 10 to 12, all of whom exhibited in linguistic delay, a nonexistent sight vocabulary, and no sense of English sentence structure. Language samples were collected at the beginning, middle, and end of the school year by asking children to write a story based on a picture from the *Peabody Language Kit*. The average number of words used in the story increased from 26.166 at the beginning of the year to 221.33 at the end of the year. Percentage of real sentences to word strings increased from 14% in beginning samples to 81%.

DAVEY, BETH, & LASASSO, CAROL. Relations of cognitive style to assessment components of reading comprehension for hearing-impaired adolescents. *Volta Review*, January 1985, *87*, 17-27.

Studies the relation of cognition style to three facets of reading comprehension assessment for 48 hearing-impaired adolescents: question format (multiple-choice and free response), lookback condition (lookback and no-lookback), and information type (text explicit/implicit). Students all scored between 5.0 and 7.9 grade equivalents on the Reading Comprehension subtest of the *Stanford Achievement Test*, Intermediate level. A modified form of the *Group Embedded Figures Test* was administered to determine cognitive style (field dependent/independent). For each of 12 passages, four text-explicit and four text-implicit questions were generated. All questions were developed in both a four option multiple-choice and a free-response format. Passages were grouped into triads, and all subjects read each passage triad under a different test condition: multiple-choice, lookback; multiple-choice, no-lookback; free response, lookback; free response, no lookback. Field dependent/independent groups did not differ on overall comprehension performance, but their mean scores differed according to item characteristics. Field independents scored higher than field dependents on items preventing reinspection of passages. Field independents scored better than field dependents on implicit information in multiple-choice format.

WEBSTER, ALEC. Deafness and reading II: Children with severe hearing losses. *Remedial Education*, August 1985, *20*, 123-128.

Reviews some of the research literature bearing on issues related to reading of children with severe hearing impairments. It is noted that the hearing-impaired child approaches reading with a more restricted vocabulary than the hearing child. The deaf reader has never met the printed symbols of the written code before nor has he met the words and syntax patterns represented by the code. A question is raised about the use of reading tests standardized on hearing children and then applied to a deaf population. Research findings indicate that deaf children utilize different strategies in taking a test than do normal hearing children. It is hypothesized that a top-down model of reading is a more appropriate one to use in understanding the deaf child's reading process.

VI-3 Mentally retarded

WHORTON, JAMES E., & DANIEL, DAWN N. A psychometric comparison of learning disabled and educable mentally retarded children. *Reading Improvement*, Spring 1986, *23*, 63-67.

Compares psychometric profiles of learning disabled (LD) and educable mentally retarded (EMR) pupils. The LD individuals were divided into two ability groups, those with WISC-R scores above 85, and those 85 and below. Subjects were 290 LD pupils and 203 EMR, all enrolled in Special Education programs in 10 public school systems in a Southern state. Data included results from both the WISC-R and the *Wide Range Achievement Test* (WRAT), Reading and Arithmetic subtests. Of the 290 LD subjects, 62% had IQs of 85 or less. Mean IQs for LD1, LD2, and EMR groups were 91.7, 76.9, and 63.1, respectively. Both LD groups were significantly different from the EMR group on the WRAT scores, but the differences between the two LD groups were not significant.

BAUMANN, JAMES F., & KOCH, KATHRYN A. One year with Kim: From nonreader to reader. *Reading World*, May 1985, *24*(4), 15-23.

Presents a case study of a 15-year-old eighth grade girl who received one year of meaning-focused rather than decoding-focused remedial reading instruction. Diagnosed as mildly mentally handicapped and placed in special education classes for all her years in public school, she never acquired minimal reading ability. Initial evaluation revealed normal hearing, no visual perceptual difficulties, and supported modest achievement expectations based on her *Slosson Intelligence Test* performance (IQ = 57). Initial assessment also revealed that she could recognize her name and read only *a* and *I*. Her listening level was second grade. She appeared to have mastered most consonant letter/sound correspondences, as well as some long and short vowels. The treatment program consisted of efforts to teach 25 sight words by presenting them alone, in conjunction with a picture or object, having her write the words, and compose oral sentences using them. She was given opportunity to apply her sight words in reading connected text and dictating experience stories. At the end of the first summer she was able to read the first preprimer. Language experience stories continued during her fall semester remediation and comprehension instruction was a part of all her reading of connected text. Results of a commercially available informal reading inventory (IRI) showed word recognition on preprimer and primer passages ranged from 69% to 92% and comprehension from 90% to 100%. At the end of the fall semester, she could recognize 33 Dolch words. Spring semester instruction continued to emphasize comprehension as well as metacognitive awareness of oral and silent reading strategies. Formal and informal testing at the end of the spring term indicated that she had increased her reading ability and was successful with primer and first grade materials. Her miscue pattern on IRIs changed from no syntactically/semantically acceptable miscues or self-corrections in the fall to 29% semantically/syntactically acceptable and 54% self-corrected miscues in the spring.

VI-4 Neurologically impaired/brain damaged

SEITERS, JUDITH A., & JACKSON, EVELYN W. Evaluating and treating alexia: A survey. *Journal of Reading*, March 1986, *29*, 530-534.

Surveys 105 rehabilitation programs to determine assessment and retraining services provided for adult alexics. Of these, 81 facilities indicated a willingness to participate in the survey; 75 indicated that they evaluated reading performance, and 69 provided treatment. About three-fourths of respondents administered an informal reading inventory in evaluating performance of brain-injured adults. A total of 31 different standardized tests were reported as being used. Most respondents indicated that they combined reading instruction with other

educational or cognitive retraining when treating brain-injured clients. Over half of the clinicians responding (55%) reported that they had taken courses in reading but only 8% had specialized in reading. Two graduate level reading courses were reported by 12% of respondents. With one exception, all tests named as being administered to brain-injured individuals had been normed on and were intended for use with normal populations. Considerable importance was placed on behavioral observation during testing.

SINGH, JUDY, & SINGH, NIRBHAY N. Comparisons of word-supply and word-analysis error-correction procedures on oral reading by mentally retarded children. *American Journal of Mental Deficiency,* July 1985, *90,* 64-70.

Provides data on the differential effects of two error correction procedures and a control condition on the oral reading errors of four moderately mentally retarded children. IQs ranged from 39 to 51 on the WISC-R or Stanford-Binet, and CA ranged from 12 to 17.4. The two error correction strategies used were word supply and word analysis. Baseline data on errors made during oral reading were collected over a 10-day period; the three treatment conditions were presented during daily five-minute sessions for 24 days. Both treatment conditions were more effective in reducing oral reading errors than the no-training control condition. The word analysis procedure was more effective than the word supply procedure.

WILLIAMS, SARAH E. Influence of written form on reading comprehension in aphasia. *Journal of Communication Disorders,* June 1984, *17,* 165-174.

Assesses the reading comprehension of 20 adult aphasic patients, all having sustained unilateral hemisphere damage. Of the group, 10 displayed fluent aphasias and 10 displayed nonfluent aphasias as determined by the *Boston Diagnostic Aphasia Examination,* Rating Scale Profile of Speech Characteristics. Subjects were given a single word-to-picture matching and a sentence-to-picture matching task. Half of the written stimuli on each task were presented in print and half in cursive on one day; on the second day of testing, items previously administered in print were presented in cursive, and those previously administered in cursive were given in print. Response latencies and errors were tabulated. Significantly more correct responses were made on the word-level than on the sentence-level task by all subjects. Significantly longer response latencies were displayed on the sentence-to-picture matching task than on the word-to-picture matching task by both fluent and nonfluent aphasic groups. There was considerable variability in subjects' performance, especially on the sentence task. Differential performance on cursive versus printed text was more marked on the sentence-level task for individual patients. There was not a systematic facilitation of one written form over the other; comprehension performance was not influenced by written form.

SIEGEL, LINDA S. A longitudinal study of a hyperlexic child: Hyperlexia as a language disorder. *Neuropsychologia,* 1984, *22*(5), 577-585.

Describes a longitudinal study of a hyperlexic girl. A Full Scale IQ of 58 was obtained on the WISC-R at age six. WISC-R scores ranged from a 1 on the coding to a 10 on similarities. At the same age, her *Wide Range Achievement Test* (WRAT) score in reading was at the 34th percentile. WRAT spelling was at the .06 percentile and arithmetic was 1 percentile. At age seven, WRAT scores were: Reading, 86 percentile; Spelling, .07 percentile; Arithmetic, .09 percentile. On the *Gilmore Oral Reading Test,* she read the first three paragraphs almost perfectly but did not understand them. In general she demonstrated difficulties with semantic and syntactic processing of language and could read words and sentences of which she had little understanding. It was felt that the existence of reading in spite of severely disordered language suggests that reading may occur by visual and/or phonological paths but that semantic and syntactical processing of words is not essential.

BYNG, SALLY; COLTHEART, MAX; MASTERSON, JACQUELINE; PRIOR, MARGOT; & RIDDOCH, JANE. Bilingual biscriptal deep dyslexia. *Quarterly Journal of Experimental Psychology*, August 1984, *36A*, 417-433.

Describes a deep dyslexic 15-year-old Nepalese boy who had suffered a severe open head injury. As a result he had no voluntary control over his speech organs, in the absence of any neuromuscular impairment. There was an extensive area of damage involving the parietal and temporal lobes. His first language was Nepalese, but he could read English. He was given 139 short high-frequency English words to read aloud, 30 three-letter nonwords, 50 drawings of common objects to name, the letters of the English alphabet, and a number of other tasks. In addition, he was asked to write 73 English words from dictation and checked for digit span recall. Testing was also done with the same words in Devanagari, the Nepalese syllabic writing system. In English, semantic errors occurred both in reading aloud and in dictation. Function-word substitutions occurred. Reading aloud of nonwords and writing nonwords to dictation was not possible. Only six of 50 concrete nouns were correct in Devanagari; matching words to pictures was almost perfect. Reading comprehension and writing to dictation were no worse with a Devanagari script than with the Roman alphabet. Naming of pictures was worse in Nepalese than in English. It is concluded that reading of syllabic scripts is not necessarily abolished in deep dyslexia.

OGDEN, JENNI A. Dyslexia in a right-handed patient with a posterior lesion of the right cerebral hemisphere. *Neuropsychologia*, 1984, *(22)*(3), 265-280.

Details a case study of a 44-year-old male who was tested 17 months following removal of a benign tumor in the lateral ventricle. Following surgery he suffered a number of visuo-spatial deficits. Test results indicated he had speech lateralized in the left hemisphere. The patient was diagnosed as dyslexic, but speech and writing were normal. The patient differed from other reported cases of acquired dyslexia both in the location of the cerebral lesion which preceded his dyslexia and also in the type of reading deficit he demonstrated. He had to sound out words before he could identify them and was dependent upon the sound of a word in making a lexical decision. He showed difficulty in pronouncing nonwords. Word naming errors consisted of visual confusions and phoneme-to-grapheme errors. The patient's reading difficulties were felt to be consistent with other evidence that the right hemisphere mediates the holistic, nonphonological processing of print. However, other reported cases of dyslexia in which the individual had difficulty identifying words directly from visual presentation were associated with left-hemispheric lesions.

COSLETT, H. BRANCH; ROTH, LESLIE GONZALEZ; & HEILMAN, KENNETH M. Reading: Dissociation of the lexical and phonologic mechanisms. *Brain and Language*, January 1985, *24*, 20-35.

Presents a case study of a 53-year-old male with mixed transcortical aphasia and deep dyslexia. He read visually presented orthographically irregular words but could not pronounce orally spelled irregular words. He was unable to read nonwords, but could pronounce orally spelled nonwords and orthographically regular words. Reading comprehension was assessed in two ways. First a test requiring the matching of one of two homophones to a picture was administered. He attained a score of 73% correct on this instrument. Second, the patient was asked to match 20 written words with the appropriate object. While he correctly read 14 of the 20 words aloud, he identified the appropriate object for only 5 of the 20 words. Additional testing indicated that he read words of high imagery better than words of low imagery and that nouns were read better than functors. The authors argue that their findings suggest that the lexical and phonologic conversion systems are functionally and anatomically distinct.

MASTERSON, JACQUELINE. Surface dyslexia and its relationship to developmental disorders of reading. *Visible Language*, Autumn 1984, *18*, 382-390.

Compares the spelling and reading of five surface dyslexics who acquired reading disorders as a result of head injury or cerebrovascular accident and four developmental dyslexics who suffered reading disability in the absence of other observable signs of neurological abnormality. Developmental dyslexics ranged in age from 10 to 26; acquired dyslexics ranged from 16 to 54. Subjects read a matched set of regular and irregular words aloud. They completed a silent reading task where they judged whether word pairs sounded similar or different. Pairs were regular words, irregular words, and nonwords. Spelling errors were also evaluated, as were their definitions of homophones. All of the features observed in the acquired dyslexic group were observed in the developmental dyslexics. All subjects scored better on regular words than irregular. Errors were made on similar items. Both groups produced regularization errors when they read irregular words orally. Homophone errors were similar. Separate judges were unable to differentiate spelling or reading errors made by developmental or acquired dyslexics.

VARNEY, NILS R. Alexia for ideograms: Implications for kanji alexia. *Cortex*, December 1984, *20*, 535-542.

Compares two groups of brain damaged adults and a control group of adults on five tests: ideogram reading, word reading, letter recognition, pantomime recognition, and visual form discrimination. The three groups were 70 with left brain lesions and aphasia, 30 with right brain lesions and no aphasia, and 30 normal controls. All brain damage resulted from a single CVA between two and six weeks prior to evaluation for this study. The presence of a brain lesion was determined on the basis of a CT scan. The ideogram test consisted of a multiple choice test in which the subject had to match one of four drawings of different animal footprints to the picture of the animal shown. There were 18 items. Word reading was determined by the reading comprehension subtest of the *Multilingual Aphasia Examination*. The letter recognition test required matching upper- and lower-case letters. Pantomime recognition required identifying objects whose pretended use was shown in 30 videotaped pantomimes. The visual form discrimination test required matching complex geometric shapes. Only 17 of the 70 aphasic subjects scored below the established cut-off score on the ideogram test. These 17 subjects also displayed impairment in word reading, and 13 were impaired in letter recognition and pantomime recognition. Results are discussed in relation to Japanese alexics who are unable to read kanji ideograms.

BYRING, ROGER, & JARVILEHTO, TIMO. Auditory and visual evoked potentials of schoolboys with spelling disabilities. *Developmental Medicine & Child Neurology*, April 1985, *27*, 141-148.

Studies EEG evoked potential in 23 young adolescent boys (average age = 13) who were poor spellers and a control group of 21 boys who were normal spellers. Reading performance was determined by a time-limited silent reading test consisting of a 36-sentence text. Each sentence had 0, 1, or 2 words missing and boys selected the correct word from four alternatives. Additionally, a spelling test, the Burton-Wiersma vigilance test, and a measure of physical maturation were collected. Subjects were Finnish. Poor spellers tended to have long auditory evoked potential (AEP) latencies and low amplitudes of early AEP deflections. Poor reading was associated with high AEP sustained potential amplitudes and a long AEP P185 latency. Findings in poor spellers are interpreted in terms of a brain maturational delay that manifests itself as an attentional disorder.

VI-5 Other atypical learners

DALBY, J. THOMAS, & WILLIAMS, RICHARD. Preserved reading and spelling ability in psychotic disorders. *Psychological Medicine,* February 1986, *16,* 171-175.

Obtains and compares test scores of reading, spelling, intelligence, and memory on 30 individuals with schizophrenic spectrum disorders, 15 bipolar manic patients, 17 patients with antisocial personality disorders, and 21 individuals with no mental disorder. Tests administered included that WAIS-R; the *Wechsler Memory Scale;* and the reading, spelling, and arithmetic subtests of the *Wide Range Achievement Test* (WRAT). In control subjects, WAIS-R IQs correlated .66 and .67 with WRAT reading and spelling scores; for schizophrenics, correlation coefficients were .41 and .27, respectively; for manic subjects, the coefficients were .38 with reading and .44 with spelling. WRAT reading and spelling scores were significantly higher than IQs in the schizophrenic and manic groups, but not in the other groups. The authors suggest that reading and spelling scores are more accurate predictors of premorbid ability in psychotic disorders than are other psychometric scales.

TEMPLE, CHRISTINE M. Surface dyslexia in a child with epilepsy. *Neuropsychologia,* 1984, *22*(5), 569-576.

Reports a case study of a 13-year-old boy who had suffered from epilepsy since he was 18 months old. On the WISC, he obtained a verbal IQ of 69 and performance IQ of 106. The vocabulary subtest scaled scores was 1. The Schonell single word reading age was 11.6; on the *Neale Analysis of Reading Ability,* age for accuracy was 10.1, and for comprehension age was 6.11. When presented with a list of regular and irregular words, all regular words were correctly read but only about one-half of the irregular ones were correct. Given a second list of 50 regular and 50 irregular words matched for frequency and length, he read 48 of the regular and 28 of the irregular words correctly. Significant homophone confusion was demonstrated when he was asked to read 20 homophonic word pairs. Errors on lists were rule-governed. Aural comprehension was impaired. It was concluded that an isolated and efficient system of phonic reading can develop which is based on grapheme-phoneme conversion or on graphemic chunks converted to phonological segments.

Journals Monitored for the Annual Summary

AEDS Journal
Academic Therapy
Action Teacher Education
Adolescence
Adult Education (British NIAE)
Adult Education Quarterly
Alberta Journal of Educational Research
American Annals of the Deaf
American Behavioral Scientist
American Cartographer
American Educational Research Journal
American Journal of Community Psychology
American Journal of Education
American Journal of Mental Deficiency
American Journal of Ophthalmology
American Journal of Optometry and Psychological Optics
American Journal of Orthopsychiatry
American Journal of Psychology
American Journal of Sociology
American Psychologist
American Quarterly
American Sociological Review
American Speech
Applied Ergonomics
Applied Psycholinguistics
Archives of Neurology
Arithmetic Teacher
Arizona English Bulletin
Arizona Reading Journal
Australian Journal of Education
Australian Journal of Psychology
Australian Journal of Reading
Australian Library Journal
Australian Psychologist
A-V Guide
Behavioral Science
Behavioral Science Research
Brain: A Journal of Neurology
Brain & Cognition
Brain & Language
British Journal of Disorders of Communication
British Journal of Educational Psychology
British Journal of Educational Studies
British Journal of Educational Technology
British Journal of Mental Subnormality
British Journal of Psychiatry
British Journal of Psychology
British Journal of Sociology of Education
Bulletin of the British Psychological Society
Bulletin of the Psychonomic Society
Business and Society
California Reader
Canadian and International Education
Canadian Journal for Exceptional Children
Canadian Journal of Behavioral Science
Canadian Journal of Psychology
Canadian Library Journal
Canadian Modern Language Review
Canadian Psychology
Cartographic Journal
Child Development
Child Psychiatry and Human Development
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Comparative Education
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Education and Society
Education and Training of the Mentally Retarded
Education and Urban Society
Education Canada
Education Digest
Education for Information
Education Libraries Bulletin

Education of the Visually Handicapped
Education, U.S.A.
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Educational Communication and Technology Journal
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Educational Gerontology: An International Quarterly
Educational Horizons
Educational Leadership
Educational Psychologist
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Educational Research Quarterly
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Educational Studies
Educational Technology
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Elementary School Journal
English Education
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English Journal
English Quarterly
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Evaluation Review
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Florida Reading Quarterly
Foreign Language Annals
Forum
Forum for Reading
Gazette: International Journal for Mass Communications Studies
Genetic Social & General Psychology Monographs
Georgia Journal of Reading
Gifted Child Quarterly
Harvard Educational Review
High School Journal
Higher Education – Amsterdam
Higher Education Review
History of Education
History of Education Quarterly
Human Development
Human Factors
Illinois Reading Council Journal
Illinois School Research and Development
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Monographs in Language and Reading Studies
Monographs of the Society for Research in Child Development
National Association for Secondary School Principals Bulletin
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New Mexico Journal of Reading
New Zealand Journal of Educational Studies
News Research Report
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Ontario Psychologist, The
Peabody Journal of Education
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